SAFETY MANUAL

Nevada State Park Employee's Guide to Workplace Health and Safety

Revised July 2021

Contents

1.0 GENERAL POLICY STATEMENT 5
2.0 STOP WORK AUTHORITY 6
3.0 SAFETY ROLES AND RESPONSIBILITIES 7
4.0 SAFETY COMMITTEE CHARTER 8
5.0 WORKPLACE HEALTH AND SAFETY TRAINING 9
6.0 ACCIDENT PROCEDURES, INVESTIGATIONS & CORRECTIVE ACTIONS 11
Injury-Workers Compensation Flow Chart 11
7.0 PROGRAM COMPLIANCE 12
8.0 HAZARD IDENTIFICATION AND CONTROL 16
GUIDE TO SAFE PRACTICES 18
I. Personal Protection Equipment (PPE) 18
II. Motor Vehicle Operation 18
III. Hand & Portable Power Tools 20
IV. Office, Shop and Storage Facilities 24
V. Lifting and Carrying 28
VI. Sanitation 30
VII. Mowing 31
VIII. Tree Felling, Limbing and Bucking 33
IX. Welding and Cutting 34
X. Fencing 35
XI. Concrete; Brick and Stonework 36
XII. Rigging 36
XIII. Chemicals/Spraying 37
XIV. Working with Patrol Boats 40
XV. Working with Chlorinators 41
XVI. Motorized Equipment 42
HAZARD COMMUNICATION PROGRAM - CHEMICALS IN THE WORKPLACE 43
I. Safety Data Sheets 44
BLOODBORNE PATHOGENS STANDARD 47
NATURAL HAZARDS 50
I. General 50
II. Poisonous Plants 50
II.A Barrier and Nuisance Plants 50
III. Insects and Animals 50
A. Fire Ants 51
B. Africanized Honey Bees 52
C. Insect Bites - West Nile Virus 53
West Nile Fact Sheet from the CDC 55
D. Soil Fungus -Valley Fever (coccidiodomycosis) 58
Valley Fever Fact Sheet from CDC 59
E. Rodents -Hantavirus Pulmonary Syndrome (HPS) 61
CDC Facts about Hantavirus 62
F. Bird or Bat Droppings - Histoplasmosis 72
Histoplasmosis Fact Sheet 73
G. Snakes 76
H. Bears and Mountain Lions 76
I. Rabies and Rabid Animals 78
VII. Rough Terrain 78
IV. Aquatic Areas 79
PUBLIC SAFETY 79
FIRE PREVENTION 81

GUIDELINES FOR HANDLING EMERGENCY SITUATIONS WITH PARK VISITORS 82
I. General 82
II. Emergency Visitor First Aid 83
III. Motor Vehicle Accidents 83
IV. Lost Persons 84
V. Animal Bites 84
VI. Crime and Offenses 85
EMERGENCY RESPONSE/PLANS AND PROCEDURES 86
IV. Fire Evacuation 87
V. Earthquake 88
VI. Explosion 89
VII. Medical Emergencies 89
VIII. Hazardous Materials 90
IX. Terrorism 91
X. Bomb Threat 93
XII. Avalanche 94
MACHINE AND EQUIPMENT SAFETY 96
FALL PROTECTION 86
I. Introduction 87
II. Controlled Access Zones 87
III. Warning Line Systems 87
IV. Fall Restraint 88
V. Fall Arrest 88
VI. Personal Fall Arrest Systems 89
LOCKOUT/TAGOUT 94
V. Methods of Lock and Tag Identification 101
WORKING IN CONFINED SPACES 101
HAZARDOUS WASTE 114
APPENDIX A - SAFETY ACKNOWLEDGEMENT, INSPECTION AND TRAINING FORMS 119
Acknowledgment of Receipt Of Safety Manual 120
Stop Work Authority Tool Box Form 121
Workplace Inspection Checklist 122
Employee Driver's Test 132
Monthly Safety Equipment Inspection 133
APPENDIX B -CHEMICAL AND WASTE HAZARD FORMS AND LISTS 136
Hazardous Chemicals List 137
List of Hazardous Chemicals & Index of SDS Form 138
EPA Hazardous Waste List 139
APPENDIX C - CONFINED SPACE FORMS AND RESOURCES 143
Confined Space Entry Log 144
Confined Space Entry Permit 145
Oxygen Deficient Atmospheres Effects 146
Common Gaseous Contaminants in Underground Construction 147
Decision Flow Chart 148
APPENDIX D - LOCKOUT/TAGOUT FORMS AND RESOURCES 16549
List of Authorized Lockout and Tagout Individuals 1660
List of Affected Employees by Job Titles 1671
Annual Evaluation Report 1692
Energy Source Determination Checklist 153
Index of All Lockout Procedures 1725
Specific Lockout Procedures 1736
Index of All Tagout Procedures 1747
Specific Tagout Procedures 17558

1.0 GENERAL POLICY STATEMENT

In accordance with NRS 618.383, 618.195, 618.295 and NAC 618.540, Nevada Division of State Parks (NDSP) has developed a Workplace Safety Manual (Safety Manual) in order to provide a safe and healthy workplace for its most vital resource: the employees who are essential to accomplishing the Nevada Division of State Park's mission.

It's a fact that accidents can be reduced if we all work conscientiously toward maintaining a safe and healthy workplace. This safety manual serves as a guide to safety practice and policy in support of the Workplace Health & Safety Program.

The goals of this manual are to:

- Reduce the frequency and severity of accidents and illnesses.
- Provide safety and health guidance for all employees.
- Comply with all applicable health and safety regulations.

While a safe work environment is essential, much of the success of a safety program depends upon the employees themselves. Nevada State Parks expects all employees, at every level, to follow the requirements set forth in this manual. Each employee is responsible for following safe work practices and must immediately alert management to any health and safety hazards observed during the course of their work.

State Parks management cares about the safety and well-being of all of our employees and welcomes suggestions for improvement. As the Administrator of Nevada State Parks, I hereby authorize and fully support the implementation of this program.

-Bob Mergell, Administrator

2.0 STOP WORK AUTHORITY

All Nevada State Parks Employees have the AUTHORITY and the OBLIGATION to stop work if they see a perceived unsafe condition or behavior, with no repercussions. This process involves a stop, notify, correct, and resume approach to resolving the situation or condition.

-Bob Mergell, Administrator

Training

All employees need Stop Work Authority training. Training will be documented, including employee name, dates of training and specify Stop Work Authority (see Stop Work Authority and Safety Culture toolbox form in Appendix A).

Stop Work Authority Procedures

- STOP
    - When an unsafe condition or behavior is observed, employee must immediately initiate a stop work intervention with the person/persons potentially at risk.
    - Make work area(s) as safe as possible by removing employees and stabilizing the situation, if necessary.
- Notify
    - Notify affected employees of the reason for the Stop Work.
    - If supervisor(s) are readily available and the affected employee(s), equipment and/or environment is not in immediate danger, stop work may be coordinated with supervisors.
- Correct
    - Affected employees will discuss the specific situation and how to mitigate the hazard.
    - Some examples of corrections:
        - Using a different piece of equipment if the job exceeds equipment capacity.
        - Getting a ladder to change the clock instead of using a rolling chair.
        - Taking more time to do the job right instead of rushing to get it done.
        - Obtaining training or ensuring we have correct training to be able to do the job/task safely instead of winging it.
- Resume
    - Work will resume only when determined to be safe by ALL involved.
    - Even if the situation was actually safe, use as a teaching opportunity and explain the safety measures.

3.0 SAFETY ROLES AND RESPONSIBILITIES

3.1 Administrator/ Deputy Administrator

- Ensure the implementation of the Nevada State Parks Workplace Health and Safety Program (safety program) and actively support the safety program.
- Ensure that supervisors and employees are cooperating with the safety program.
- Work to provide adequate resources and support to meet the needs of the safety program.
- Review and take appropriate actions of the Parks Safety Committee recommendations.
- Evaluate and report results on the status of the program implementation to the Department Director and/or Deputy Director.
- Assign responsibilities as necessary to meet the needs of the safety program.

3.2 Safety Representative

- Coordinate the development and implementation of the safety program.
- Monitor and evaluate safety activities and programs to ensure effectiveness and make recommendations for improvement.
- Act as a resource for employees and supervisors, in regard to safety programs, training and safety topics for meetings.
- Interface with Risk Management, Safety Consultation and Training Section (SCATs) and other agencies which have training resources that can be used by Parks staff.
- Provide estimates to management for budget development to include safety improvements.
- Encourage an active interest in safety and health among management and employees.

3.3 Managers & Supervisors

- Ensure that employees are provided and attend necessary safety training specific to job tasks.
- Maintain a safe and healthy work environment by identifying and mitigating hazards.
- Ensure employees are provided with all appropriate tools and equipment including Personal Protective Equipment required for task assigned.
- Investigate all reported accidents and complete all required reports within specified deadlines.
- Regional Managers are responsible for contacting OSHA, per 29 CFR 1904.39(a) in the case of worker related accident concerning employee fatality, amputation, loss of an eye or in-patient hospitalization.
- Regional Managers are also responsible for ensuring that workplace health and safety inspections are conducted at all Parks within their region annually.

3.4 Employee

- Follow all health and safety rules and trainings, including using prescribed PPE and safety equipment.
- Exhibit good safety behavior and seek assistance in resolving hazardous conditions, practices or health and safety concerns.

- Immediately report all accidents, incidents and injuries to his/her supervisor and complete required forms.

3.5 Safety Committee

- Advise Managers, Supervisors and fellow co-workers on occupational safety and health issues.
- Provide safety guidance, review/create forms, safety programs and policies.
- Act as a resource in matters pertaining to safety, as well as observe safety practices in their specific workplaces.
- Suggest both on and off-the-job safety topics and incorporate these topics into the overall safety process.
- Review accident reports and facility inspection reports for recommended corrective actions if needed.

4.0 SAFETY COMMITTEE CHARTER

4.1 Mission:

To foster open and ongoing communication and cooperation between employees and management on all issues relative to workplace health and safety.

4.2 Membership:

- The committee should consist of 10-12 members, as follows:
    - Three representatives from each region including: one commissioned or non-commissioned Ranger, one maintenance staff, and one manager.
        - One from Lake Tahoe Nevada State Park.
- Representatives may volunteer or may be appointed by Regional Managers.
- Member term will be 3 years but can be extended.
- The chairperson and co-chairperson will consist of elected safety committee members to run concurrently and have a term of one year each. The co-chairperson will replace the chairperson at the end of the chairperson's term.
- A note taker will be appointed by the chairperson.
- Sub-teams should be made up of at least one committee member and up to five NDSP employees and will be created to address specific issues.

4.3 Responsibility:

- Safety Committee will:
    - Hold quarterly meetings at a minimum.
    - Periodically review and update existing programs and policies.
    - Review recent accidents to analyze trends and find possible safety solutions.
    - Elevate successes, safety concerns or safety questions from employees in order to share information and apply mitigation measures.
    - Be a resource to co-workers regarding workplace health and safety.

- Safety Committee Member Responsibilities:
    - Attend safety meetings; if unavailable, notify the chairperson and designate someone to send in their place.
    - Present ideas for improving health and safety.
    - Complete assigned action items by assigned deadlines.
    - Act as a resource in matters pertaining to safety, as well as observe safety practices in their specific workplaces.
    - Create and promote open safety communication based on honesty, trust and respect.
    - At least one representative will be available to participate in workplace inspections that are based in their region.
- Chairperson Responsibilities:
    - Set the meeting date, time and location.
    - Set agenda.
    - Facilitate the meeting.
- Co-chair Responsibilities:
    - Responsible for action follow-up

4.4 Meetings:

- Meetings will be held quarterly with at least one on-site meeting per year. Other quarterly meetings may be held via telephone and/or video conferencing.
- On-site meetings will be extended meetings and may last up to 4 hours.
- Meetings will be held during the second week of March, June, Sept and December unless otherwise announced.

4.5 Records:

Records from all safety committee meetings will be handled as follows:

- Minutes of all committee meetings will be drafted by note taker in a format approved by the committee.
- Copies of minutes of safety committee meetings will be:
    - Electronically filed on the Shared Drive (: S) safety folder and retained for a period not less than three (3) years.
    - Sent to each Safety Committee Member, Administrator, Deputy Administrator, Safety Representative, Regional Managers and Facility Managers.

5.0 WORKPLACE HEALTH AND SAFETY TRAINING

Parks will provide training classes that are appropriate and compliant with OSHA 29 CFR 1910 General Industry and 29 CFR 1926 Construction requirements. Documentation of all training will be maintained in each employee's training record. A copy of all OSHA Construction 10 and 30 cards will also be provided to the Safety Representative. Immediate supervisors are responsible to set target dates for completion and ensure training is completed. The Safety Representative may be used as a training resource.

Trainings can be provided by Risk Management, Safety Consultation and Training Section (SCATS),

in-house trainers, Fire Marshall and/or other resources identified by Management.

5.1 When to Train Employees

Employees should be trained before being exposed to hazards and within specified timeframes. Training and/or retraining should occur:

- For all new employees.
- Employees given new job tasks for which job training has not previously been received.
- Whenever new substances, processes, procedures or equipment are present that represent a new hazard.
- Whenever the employer is made aware of a new or previously unrecognized hazard.
- Specific training may be needed for supervisors if their employees are completing.
- New task the supervisor is unfamiliar with, in order to completely understand the health and safety hazards.
- Refreshers are often needed at required intervals or if it is noticed the employee has not retained training information.

5.2 Training Documentation

- Safety training will be documented by the immediate supervisor and stored in employee's training file at their primary workstation. A copy of the OSHA Construction 10- and 30-hour cards, defensive driving, sexual harassment and IT training certificates will also be stored at Division.
- Safety training can be documented by class certificates or any other form that has at least the basic information listed below:
    - Name of Employee
    - Date(s) of Training
    - Type of Training
    - Trainer's Name and Contact Information

5.3 Health and Safety Training per Job Description

- SAFETY REPRESENTATIVE
    - Written Workplace Safety Program
    - Accident Investigation
    - Hazard Identification
    - Workplace Evaluation and Management Tools Training
    - Workplace Violence Training
    - Other applicable safety training
- SUPERVISORS/MANAGERS

  Supervisors are required under SAM 0521.2(c) to take the following classes:

- Accident Investigation
- Supervisor's Safety Training
- Workers Comp Overview for Managers and Supervisors
- Managing the Threat of Workplace Violence
- Defensive Driving
- Office Ergonomics for Supervisors and Managers
- Other safety trainings may be required for supervisor/managers based on work activities.
- Supervisors that supervise employees who conduct construction tasks must have or obtain an OSHA construction 30-hour card.

- EMPLOYEES

  New Employee Orientation – topics should include but not limited to:

  - Introduction to NV State Parks Safety Manual and applicable forms.
  - OSHA rights and responsibilities.
  - Accident procedures.

  General Safety Training- topics should include but not limited to:

  - Hazard Communication.
  - Blood Borne Pathogens (if necessary).
  - Personal Protection Equipment.
  - Emergency Procedures.
  - Proper lifting techniques and body mechanics.
  - Slip and Fall Prevention.
  - Site specific hazards and mitigations.

  Defensive Driving for all employees that will drive State vehicles.

  Task Specific Safety Training - Other safety training will be necessary based on work activity and must be compliant with OSHA standards. For questions, refer to OSHA.gov or contact the Safety Representative.

6.0 ACCIDENT PROCEDURES, INVESTIGATIONS & CORRECTIVE ACTIONS

6.1 If an Injury and/or Incident Occurs:

Employee must report all on-the-job injuries to their supervisor as soon as practical after occurrence. The only exception is employees attending a Nevada Division of State Parks (NDSP) Law Enforcement (LE) in-service training or NVPOST academy, these employees will report all injuries to Law Enforcement and Training Specialist (LETS) who will perform all supervisory functions for employees injured while attending NDSP LE in-service training or NVPOST academy.

- **IF AN EMERGENCY**, get immediate medical attention.

- **IF NOT AN EMERGENCY** and employee wants to seek medical treatment, go to an approved provider listed at: http://risk.nv.gov/WC/

6.2 Workers Compensation Paperwork

- The supervisor of the injured employee will ensure that appropriate worker's compensation forms are completed within defined timeframes. Worker's Comp forms and flowcharts can be found at: http://risk.nv.gov/Workers_Comp/SupervisorForms/
- The injured will complete a C-1 form (even if no medical attention was sought) in addition to any other required documents. Original signed C-1s and all other worker's comp forms should be sent to:

  Shirley DeCrona, Division Office
  901 S. Stewart St, Suite 5005, Carson City, NV 89701
  (775) 684-2788
  sdecrona@parks.nv.gov

- Copies should also be kept in a locked location at the employee's primary work location.

6.3 Accident Investigation

- All accidents/incidents will be investigated by the injured employee's immediate supervisor. The supervisor may also request help from the Regional Managers, the Safety Representative, Safety Committee, the Deputy Administrator and/or the Administrator.
- Corrective action(s) will be initiated by the supervisors of the injured employee and/or the supervisor responsible for the work area involved.

Simple List of Possible Factors:

☐ Failed to use proper tool/equipment
☐ Used defective equipment
☐ Used equipment unsafely
☐ Poor housekeeping
☐ Unsafe attire
☐ Lack of Safety inspection or missed item
☐ Unaware of hazard
☐ Lack of proper training
☐ No protective equipment
☐ Safety Standard deviation
☐ Fall hazards
☐ Faulty design/construction
☐ Wear, deterioration, abuse
☐ Miscommunication
☐Other _____

Simple List of Corrective Actions and Preventative Measures:

☐ Train/retrain employees
☐ Revise written guideline/standard
☐ Repair/replace equipment
☐ Other _____
☐ Improve design/procedure
☐ Obtain safer material/equipment
☐ Discipline employee

- Accident/incident reports will be retained onsite and copies sent to the Safety Representative and Regional Managers and Risk Management (if needed). Summaries will be reviewed anonymously by Safety Committee Members at quarterly meetings to analyze for trends, brainstorm, apply mitigations and recommend preventative measures.

6.4 OSHA Notification

Regional Managers must notify OSHA per 29 CFR 1904.39(a):

Within 8 Hours after learning	Within 24 Hours after learning
Employers must report to NVOSHA all: workplace accidents involving an employee fatality or fatalities	Employers must report to NVOSHA all: inpatient hospitalizations of one or more employees amputations of a part of an employee's body or an employee's loss of an eye

To report an incident to NVOSHA, call (702) 486-9020 (Southern Nevada) or (775) 688-3700 (Northern Nevada). (Ref. NRS 618.378)

****If an emergency, call 911 or local emergency response number and seek immediate medical attention.**

Once employee is stabilized, all paperwork will be completed as described below and within specified deadlines. The Regional Manager will be responsible for contacting OSHA if necessary (see side bar).

If incident is non-life threatening and/or does NOT require immediate medical treatment:

5 Notify Supervisor and fill out a C-1.

6 If treatment is needed, go to an approved provider listed at: http://risk.nv.gov/WC/

7 Fill out necessary Worker's Comp forms within specified timeframes. Reference the Injury-Worker's Compensation Flow Chart for required forms and timeframes:

http://Risk.nv.gov/Workers_Comp/SupervisorForms/

*Click on Procedure Flowchart

8 All Worker's Comp forms, including all C-1s, should go to:
Shirley DeCrona
901 S Stewart Street, Suite 5005
Carson City, NV 89701
sdecrona@parks.nv.gov
775-684-2788

7.0

When OSHA needs to be notified:

29 CFR 1904.39(a)(1)Within eight (8) hours after the death of any employee as a result of a work-related incident, you must report the fatality to the Occupational Safety and Health Administration (OSHA), U.S. Department of Labor.

29 CFR 1904.39(a)(2) Within twenty-four (24) hours after the in-patient hospitalization of one or more employees or an employee's amputation or an employee's loss of an eye, as a result of a work-related incident, you must report the in-patient hospitalization, amputation, or loss of an eye to OSHA.

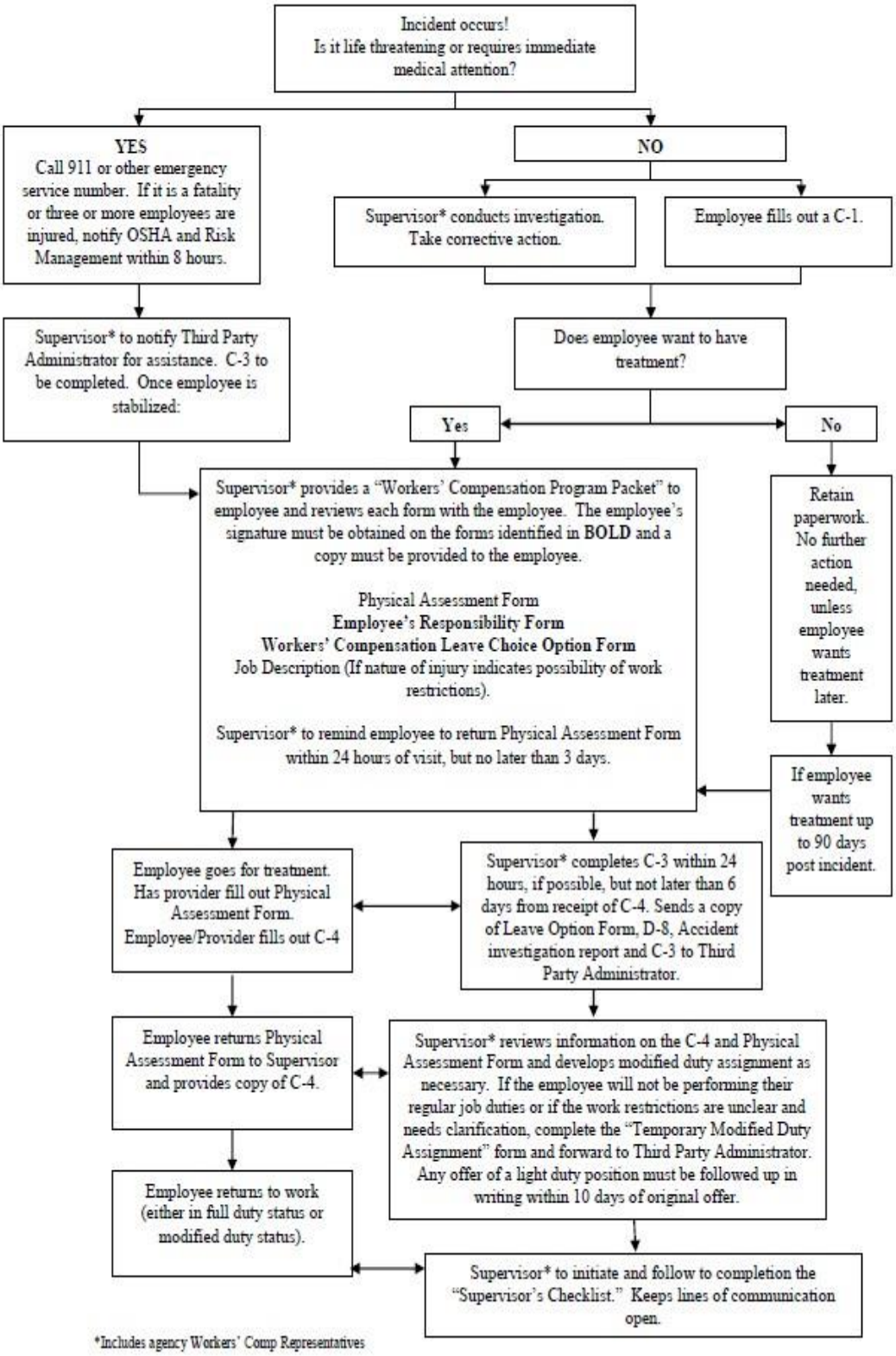
29 CRF 1904.39(a)(3) You must report the fatality, inpatient hospitalization, amputation, or loss of an eye using one of the following methods:

29 CFR 1904.39(a)(3)(i) By telephone or in person to the OSHA Area Office that is nearest to the site of the incident.

29 CFR 1904.39(a)(3)(ii) By telephone to the OSHA toll-free central telephone number, 1-800-321-OSHA (1-800-321-6742).

29 CFR 1904.39(a)(3)(iii) By electronic submission using the reporting application located on OSHA's public Web site at *www.osha.gov*.

Injury-Workers' Compensation Flow Chart



*Includes agency Workers' Comp Representatives

PROGRAM COMPLIANCE

7.1 Disciplinary Procedures

Disciplinary procedures are outlined in Personnel and Procedures NAC 284.638, 642, 646, 650 and 650 and 653 and Department of Conservation & Natural Resources Prohibition and Penalties dated September 28, 2011.

This process will likely follow:

- First Offense – oral warning.
- Second offense – written warning.
- Third offense – suspension without pay up to thirty (30) days.
- Fourth offense, or if seriousness of violation warrants – demotion or dismissal.

The following situation could warrant written warning, suspension, demotion or dismissal:

- Willful removal or interference with safety device or safeguard.
- Dangerous horseplay or inattention that threatens the life of an individual.
- Failure to use required personal protective equipment.
- Failure to report accidents.

8.0 HAZARD IDENTIFICATION AND CONTROL

The Department of Conservation and Natural Resources Workplace Health and Safety Program requires timely evaluation of all work activities to identify workplace hazards.

Workplace hazard identification is an on-going process. Hazard assessment should be conducted before each task, giving special attention:

- When completing new tasks.
- Where a known hazard is present.
- When a change in workplace such as new equipment, chemicals, procedures or environment are present.
- When an unknown hazard has been discovered.
- At regularly scheduled inspections.

8.1 Identify Hazards

1. Conduct annual Workplace Safety Inspections.
2. Review past accidents to see if there are any trends or if the accident could reoccur.
3. Consult employees about potential workplace hazards.
4. Review Safety Data Sheets (SDS) for potential chemical hazards.

5. Review manufacture's recommendations on equipment.
6. Ask questions; "what could go wrong in this situation?", "how could this be more safe?"

8.2 Assess Hazards

1. Are there other factors that may contribute to the hazard?
2. Evaluate how severe the harm could be, including looking at types of injuries or illnesses, harm, or damage that could result from the hazard. How many employees exposed? Possible chain reactions?
3. How likely is this hazard to occur?
4. Address any site-specific concerns.

8.3 Implement Control Measures

Be aware of different types of controls available and the benefits and limitations of each.

1. **Eliminate the hazard;** most effective – Physically remove hazard.

   Examples:

   -Remove the use of a hazardous chemical when feasible.

   -Bring equipment to ground level if possible, to either remove confined space hazards (if lower) or reduce fall hazards (if above).

   -Promptly repair equipment to eliminate hazards that result from malfunction.

2. **Substitution**- Replace the hazard. Examples:

   -Replace a toxic chemical with a non-toxic chemical.

   -Replace a noisy piece of equipment with a quieter one.

3. **Engineering Controls**- Isolate people from the hazard. Examples:

   -Use mechanical lifting devices.

   -Use local ventilation systems to reduce contaminants in the workers breathing zone.

4. **Administrative Controls**- Change the way people work. Examples:

   -Change workplace policies and procedures.

   -Install warning alarms and labeling.

   -Reduce the time workers are exposed to a hazard.

   -Training.

5. **PPE-** protect the worker with Personal Protective Equipment- least effective and should be implemented only if other control measures can't effectively remove hazard. Examples:

   -gloves, protective clothing, hard hats, respirators, eye protection and ear protection. This should be your last resort.

GUIDE TO SAFE PRACTICES

I. Personal Protective Equipment (PPE)

- **Equipment** - Personal protective gear includes hard hats, goggles, ear plugs, face shields, shin guards, gloves, respirators, and other items determined necessary for the task.

- **Use** - The use of PPE will depend on the task, hazards and conditions. The Park Supervisor/Management is responsible to make PPE available, provide training and hold employees accountable for use. Training on the proper equipment selection is available through many resources such as Parks Safety Director, Risk Management, Safety Consultation and Training Section (SCATS), manufacturer's operator manual and the Safety Committee.

- **Basic Equipment** - Each park will provide a **basic set** of personal safety equipment to each employee at the time of hire. The **basic set** for each employee will be determined by the supervisor and must meet OSHA specifications. A park worker might typically receive the following basic set: eye protection, hearing protection, gloves and hi-visibility vests.
    - Besides the basic set, each worker will be provided with **specialized safety** equipment as the job situation demands. Eye protection, orange traffic vests, hard hats, hearing protection, anti-vibration gloves, welding helmets, welding gloves, chain saw chaps, etc. will be provided and must be used.
    - Personnel are responsible for keeping their equipment clean and usable. Lost or damaged equipment must be replaced promptly. Except in cases of willful abuse, equipment will be reissued without cost to the employee.

- **Clothing and Footwear** - Articles appropriate to the job shall be worn. Disposable coveralls or aprons may be provided to comply with requirements of blood borne pathogen cleanups.

II. Motor Vehicle Operation

- **General** - The operator of any vehicle shall be responsible for observing all driving regulations.
- **Operator Qualifications and Authorization** - Unlicensed or unqualified employees will not operate State Park vehicles. Any employee operating a state vehicle must have Defensive Driving training.
- **Standard Safety Testing** - All vehicles shall be provided with standard safety features according to the law and Division policy. Facility Supervisors are responsible to see that each vehicle is properly set up and drivers are checked out on operation before release to employees. *All permanent employees that operate agency vehicles will receive the Employee Driver's Test (SFY-15, see Appendix F) from their supervisor and seasonal employees will receive the test each season. If an employee has an accident /incident involving an agency vehicle, they will receive this test again.) The signed form is retained in the employee's personnel file.*

- In the field, operators and supervisors are responsible for assuring that safety equipment remains in good working order. Questions regarding required safety features may be addressed to the Facility Manager.

- **Auxiliary Safety Supplies** - The supervisor will establish and maintain a basic set of auxiliary safety supplies for each vehicle. Such supplies will include, at a minimum: first aid kit, fire extinguisher, and accident report forms.

- **Maintenance** - Facility Supervisors will maintain a regular program for servicing vehicles and equipment, based on mileage or hours of operation and the manufacturer's recommendations. After each service check, a tag showing when the next service is due will be placed in a conspicuous location on the windshield or noted in the Equipment Logbook.

    - Before leaving the shop, the operator should conduct a safety inspection of any vehicle being picked up after repairs or service. This also applies to any equipment being checked out, or to vehicles taken on loan.

    - The following guidelines should be used for breakdowns in the field:

    - Decide the nature of the problem, if you can.

    - Notify your supervisor, giving the nature of the problem, location, and equipment number.

    - The supervisor will notify maintenance.

    - Do not attempt repairs for which you are unqualified or uncertain.

    - Do not try to "cripple in" a dangerously defective vehicle, especially on public roads.

- **Operation** - The following rules apply:

    - Employees shall not pick up strangers or provide anyone a ride except as a part of official business. (Emergencies, see Policy # 71-1, State Vehicles, Equipment and Supply Use and Policy # 08-4, Motorist Assist.)

    - Seat Belts - Wearing seat belts is mandatory by State Law. Safety belts shall always be used by drivers and passengers unless they are driving slower than 15 mph and are making frequent stops (State Law). Tools, materials and supplies must be secured so they cannot slide about or fall from the vehicle. Spill-able loads must be covered. No person shall be transported in the back of any truck, dump truck, flat bed or other vehicle. Scientific studies have shown that use of seat belts and shoulder harnesses **greatly reduces** the severity of injuries in motor vehicle accidents.

    - Whenever possible, especially with larger vehicles, a helper shall be enlisted to direct the driver in backup operations. Never back a vehicle without the driver's certain knowledge of what is behind the vehicle.

        - Overloading - Trucks will not be overloaded.
        - Idling - Vehicles should not be left standing with the engine running, other than for brief warm up periods or in situations that the task at hand places an added burden on the vehicle's electrical system. Shut off the engine; set the parking brake; turn front wheels toward the curb when facing down a hill (away from the curb when facing up a hill); place chocks. The transmission

should be in "park" on vehicles with automatic transmissions. Never leave a running vehicle unattended, except for law enforcement emergencies.

- Use warning lights whenever the vehicle is stopped on or along public roads.
- All operators shall practice *DEFENSIVE DRIVING*. Avoid accident situations created by the mistakes of others or by weather or other environmental conditions by always allowing a MARGIN OF SAFETY.
- Yield the right of way when necessary, even when you feel it is rightfully yours. Make constant concession to other drivers who are thoughtless, unskilled or ignorant of the hazards they create. Anticipate the unexpected!
- Drivers shall always observe state laws and Division regulations.

III. Hand & Portable Power Tools

- General Rules - Look for potential hazards. Observe these principles governing the safe use of tools:
  - Select the right tools for the job.
  - Maintain the tools in good condition and replace defective tools immediately.
  - Use the tool correctly.
  - Store and transport tools safely, whether traveling or on the jobsite.
  - Guard or sheath sharp-edged tools when carrying them to and from the job. This is especially true for fire tools.
  - When using or carrying hand tools, stay a safe distance from other workers. Carry tools on the downhill side when walking on a slope. Never carry power tools by the cord.
  - When a tool is not being used, place it in a stable position where it is in plain sight, and its cutting edges are not exposed.
  - Never throw tools to a co-worker.
  - Eliminate worn out tools from use. Separate those tools needing repair or sharpening from those ready for use by tagging or storing them separately. "Survey" those that are beyond repair, making sure to follow appropriate inventory control procedures. Upon receiving approval to "junk" power tools, cut the plug from the electrical cord so that injury does not occur if someone should salvage the tool from the garbage.
  - Inspect tools for proper condition before use or storage. This includes inspecting the cord for any frays or breaks.
  - Construct racks, bins and boxes for tools so that workers cannot fall on or collide with sharp edges, and tools cannot fall out.
  - Design toolboxes so they can be moved by the handles, tools can be removed efficiently, and the box will not be too heavy to carry.

- Chopping Tools - Axes, Pulaski, mattock, brush hooks, machetes, etc. Safe guidelines for any worker:

- Supervisors will instruct workers in proper sharpening techniques. Grind slowly toward cutting edge to preserve temper. File handle and leather gloves should be used when sharpening cutting tools with a file.
- Place the tool in a secure position during filing.
- Discard axes and hatchets that have excessively round corners.
- When carrying an unsheathed chopping tool, grab handle close to the head, with blade parallel to the ground at arm's length and free from the body. Never carry it on your shoulder.
- Be sure footing is firm before swinging.
- Chop away from feet and body. If the tool glances, stand so that it cannot strike your feet or legs. If it is necessary to swing toward the feet or legs, strike blows lightly so that if the tool glances, you can control it.
- Before chopping:
- Remove underbrush that might interfere with chopping.
- Remove overhead branches the tool might hit.
- Chop only in a natural position where there is sufficient clearance to swing the tool. Never chop cross-handed; you'll lose control.
- Guard against chips hitting your eyes by using eye protection.
- Use special care when working on hillsides.
- Do not use chopping tools for wedges or to drive metal stakes.
- Two workers should never cut on the same tree simultaneously. Felling should be done only under supervision of an experienced feller.
- When limbing a fallen or felled tree, the limber stands on the opposite side of the tree from the limb being cut.
- When bucking, stand on the uphill side of the fallen tree.
- Special foot and shin protection such as nonskid, safety-toed boots and shin guards should be used on major chopping jobs.
- Anti-vibration gloves should be worn when using chainsaws, to improve grip.

- Cutting Tools (saws)
  - The first cut of a handsaw should be made toward you. Guide with your thumb placed above the teeth of saw.
  - Use a teeth guard or carrying case when carrying saw to or from work area.
  - Avoid using knives with dull or nicked edges and loose or split handles.
- Files
  - Equip files with handles before using.
  - Wear leather gloves when using a file to sharpen cutting tools.
  - Discard dull files or any file with a bent tang.
  - Keep files free of oil or grease. Discard files with hard spots or where teeth have worn out. Clean files regularly with a file card.
- Material Handling Tools
  - Bar
    - Secure fulcrums and toe holds to avoid finger and toe injury.
    - When prying, grasp bar firmly to place it, then push with the palms.

        - Keep body parts out of line with the bar. This is especially true when using a pipe "cheater" on a chain binder.
        - Lay the bar flat and in the clear when not in use.
        - Do not lean it against a wall, tree, or vehicle, and do not leave it protruding from the ground where someone may fall onto it, or be forgotten.
    - Jacks
        - Inspect jacks before use to see that they are in safe operating condition. If not in safe operating condition, DO NOT USE.
        - Center the load on the jack to prevent the load from tipping.
        - Block the load up before someone gets under an object supported by jacks, such as a bulldozer blade or front loader bucket.
        - Use a jack only in the vertical position to avoid tipping. Sometimes you have to start the jack at a slight pitch to end up vertical.
        - Keep all parts oiled and clean.
    - Pike Poles
        - Keep tips sharp.
        - Keep yourself balanced when using the poles.
        - Pulling gives the best control.
        - Place guards on points when not in use or during transport.
    - Wedges
        - Check steel wedges for cracks and flaws. Remove defective wedges from use. The temper of the wedge must be softer than of the sledge (so it won't ruin the sledge). Recondition mushroomed heads before using.
    - Hand trucks
        - Load no higher than the top of the hand truck.
        - Have load secure and well-balanced.
        - The operator must keep feet away from wheels and fingers where they can't be crushed. Push the truck; don't pull.
        - When not in use, place truck clear of passageways, with the carriage side towards a wall.
- Wheelbarrows
        - Check general conditions including handles and tire pressure, before use.
        - Keep back straight and use legs when lifting handles of loaded wheelbarrow. Do not overload. Keep well balanced with weight well forward for greater leverage. Push for better control; don’t pull.
        - Never run with a wheelbarrow.
        - Provide enough clearance so knuckles will not get bruised or skinned.
- Digging Tools
    - Shovels

        - Shovels (especially fire shovels) should be kept sharp. Mark fire shovels to keep them separate from digging shovels and install protective covers to keep the sharp edges from becoming dulled or harming persons.
        - Do not use shovels for prying.
        - Use your legs as fulcrum for easy lifting and slinging of loaded shovel.
        - Before using, check handles for splits, cracks or slivers. Discard or remove defective tools from service. All wooden handles can be kept in good shape with periodic linseed oil treatments.
    - Hoes, Mattocks, Picks, etc.
        - Keep the head tight-fitting and wedged so it cannot slide.
        - Spread your feet, secure your footing and firmly grip handle.
        - Repair loose-handled tools promptly.
- Striking Tools
    - Chisels, Hammers, Mauls, Sledges
        - Do not use chisels or punches with mushroomed or chipped heads, chipped or dull edges or points.
        - Do not use hammers and sledges with uneven or rounded faces, loose or splintered handles.
        - When using, the full face of the sledge should contact the object struck, to avoid glancing blows and damage to the face of the tool.
        - Wear goggles for eye protection when using chisels, mauls, etc.
- Torsion Tools
    - Screwdrivers
        - An awl, drill, or nail should be used to make a pilot hole to start a screw.
        - Inspect before using. Do not use those with split or battered handles, dull or bent blades, or bent shanks. Pick the right size screwdriver for the slot. A minimum seventy-five percent of a screw slot should be covered by the screwdriver blade.
        - Use a screwdriver with an insulated handle for electrical work.
        - Screwdrivers should never be used as chisels or pry bars.
        - When working small materials by hand, they should be held securely by a vise or clamp, and not in the hand.
    - Wrenches
        - Inspect for worn or sprung jaws, battered heads, rough, broken or sprung handles, and worn mechanisms.
        - Apply a wrench so that the major force is against the stationary jaw (pipe wrench, adjustable wrench, etc.).
        - Get a firm grip on the wrench before pulling hard. Use a steady, controlled force, perpendicular to the handle, for maximum leverage.
        - Hammering on a wrench or using a piece of pipe for increased leverage may cause injury and damage the wrench.
        - Never use a wrench as a hammer.
        - Never use a wrench on a machine that is in motion.

        - Use pipe wrenches only on round surfaces.

    - Electric Tools
        - Grinders, polishers, circular saws, drills
        - Unless tools have double-insulated wiring, use only those having a 3-wire cord with ground, and NEVER pull the ground prong out of the cord.
        - Use tools according to the manufacturer's recommendations.
        - Firmly clamp material to be drilled, sanded, routed or cut. Do not hold work in the hands.
        - Use only power saws and drills with quick release trigger switches.
        - Keep the guard properly adjusted on power saws, grinders and anything else that came with one.
        - Guard cords from entanglement or damage. If damaged, do not use.
        - Keep the work area orderly, clear of debris, and dry.
        - Unplug the cord before changing bits in an electric drill, blades in saws, discs in grinders, or other attachments to power tools.
        - Keep all power hand tools unplugged and put them away when not in use.
        - Eye protection must be worn when cutting or grinding and should be worn when using any power tools.

IV. Office, Shop and Storage Facilities

- Office Safety

  Generally, facilities should have an adequate storage area for materials and supplies, including cabinets and racks for tools and portable equipment, and well-designed holding areas for unfinished work in progress.

    - Space and Facilities - These must conform with all local, State and Federal regulations regarding building codes, lighting, fire protection, sanitation and health. The Facility Manager will provide information or sources to answer questions on codes.
        - Office Machines - Computers, photocopy machines, paper cutters, adding machines, typewriters, staplers, etc.
        - Place power outlet bars where they will not be a tripping hazard. Avoid multiple plugs at outlets that may overload circuits.
        - Place electric fans, paper cutters, etc. where they do not cause a hazard to passersby. Keep the blade of paper cutters in the down position.
        - When in use, coffee makers and hot plates should be placed on heat resis-tant material and in a location where they cannot be overturned.
        - Shut off electrical machines before cleaning or adjusting them in any way.

- Turn power switch off before plugging a machine into an electrical outlet.
- Properly ground electrical appliances.
- Keep hands, hair, loose apparel, or dangling jewelry away from the moving parts of machines and wear protective clothing when required.
- Use only approved non-flammable cleaning fluids for cleaning machines.
- Call a trained maintenance specialist when problems encountered are beyond the scope of the operator's manual.
- Never stick your hand in a computer printer or other machinery while it is running.
- Always unplug a computer from its printer and monitor and the wall before moving it.

- Office Furniture - Cabinets, Desks and Chairs
  - Keep the drawers of desks, cabinets and files closed when not in use. Never leave upper drawers of filing cabinets open any longer than necessary to retrieve the file you need; top-heavy filing cabinets may tip over if drawers are left fully open.
  - Grasp the handle when closing desk drawers, cabinet doors, and drawers to avoid pinching fingers.
  - Avoid filing heavy materials in top drawers. Use lower drawers for heavy objects. Open only one drawer at a time. Secure cabinets to the wall or floor if possible.
  - Avoid putting directories, books, machines, etc., on the top of filing cabinets, as they would become a falling hazard.
  - Report all office furniture with slivered or rough edges, or with loose and defective parts, so defects can be corrected.
  - Any rugs used should have non-skid backing.
  - Avoid leaning back too far in swivel chairs or balancing on two legs of a straight chair.
  - Try to avoid lifting swivel chairs. Instead, roll them across the floor. If you must lift one, test it by lifting it slowly enough to be sure the base won't fall out on your foot.
  - Standing on any kind of chair may be hazardous. Use a sturdy stool or stepladder instead.
- Aisles, Stairs, Floors, and Walls
  - Lighting must be enough to expose all hazards in hallways, and on stairs in every work area.

        - Slippery floors should be treated with non-skid wax.
        - When walking on stairways, keep to the right, go in single file, hold the handrail, and watch where you are stepping.
        - Never run or skip downstairs.
        - Keep stairs clear of materials or objects.
        - Report defective handrails and damaged carpeting immediately.
        - Keep passageways clear. Avoid leaving cartons of supplies in aisles.
        - Keep windowsills or shelves clear of objects that might fall and strike a passerby.
    - Trash
        - Always place wastebaskets in out-of-the-way places. Discard them when the rims become broken or ragged.
        - Keep broken glass, pins or other sharp objects out of wastepaper baskets. Dispose of them separately or wrap and mark them for the custodian.
        - Extra caution should be taken when disposing of fluorescent tubes. Ensure to dispose of properly to prevent accidental breakage.
        - Always empty wastebaskets before they overflow.
        - Allowing trash to build up is a violation of fire codes.
    - Miscellaneous
        - First aid kits should be available for treatment of scratches and cuts to prevent infection. Always check the expiration dates of contents.
        - Running, horseplay and practical jokes often cause serious injuries.
        - General good housekeeping practices should be routine.

- Shop Safety
    - Workshops must be thoughtfully designed and constructed to fit the tools, machines, and supplies, which will be kept in them. New facilities should be constructed when overcrowding becomes a hazard.
    - Tools and portable power equipment should be stored in cabinets and racks to keep them well-organized and out of the way when not in use.
    - Maintain clear, adequate aisle and working space around machines.
    - Practice good housekeeping.
    - Before starting any power-driven machine, the operator must check to see that:
    - The working surface is clear.
    - Guards and safety devices are adjusted and in place.
    - All parts such as cutting tools, tool holders, chucks, centers, guides and clamps are adjusted for the work to be done and set to clear all moving parts.
    - The machinery is in safe operating condition with all parts operating freely.
    - Operators and others shall keep out of the line feed of the piece being machined or sawed.
    - Stop machines in order to oil, clean or adjust, or to change teeth or blades. When adjusting the work, remove keys and drift pins.
    - Use brushes or vacuum to remove particles such as metal cuttings, chips or dust from machines. Never use bare hands.
    - Stop the machinery after completing the work operation. The operator must remain at the machine until it stops.
    - Employees without experience must not operate any wood or metal working machine until instructed in the hazards and proper operation of the machine, and the use of protective devices. Each operator must prove a satisfactory understanding of these machines in the presence of a qualified supervisor.
    - All machinery must be installed and operated according to the manufacturer's specifications and recommendations.
- Storage Area Safety
    - Housekeeping - Always maintain neatness and cleanliness.
        - Nothing to trip or slip over.
        - No trash in or around work or storage areas.

- Fire hazards controlled.
- Maintain safe storage space; a place for everything and everything in its place. Flammables and poisons should be given attention; re-bottled chemical items should be labeled in permanent ink, preferably on an approved label form which lists the chemical name and hazards of and precautions for use.

- Piling
  - Observe safe floor load limits. The heaviest items should be stored near walls, where floor joists have the greatest strength.
  - Each pile must have a firm foundation.
  - Block round objects so they can't roll.
  - Cross-pile tiers so that materials support each other if possible.
  - Interlock unsecure tiers with bands or other materials.
  - Lean materials away from aisles to prevent toppling.
  - Piles should be broken down from the top, with steps or taper maintained and with no undercutting.
  - Bagged material (cement, fertilizer, etc.) should be cross tied when piling. Bag mouths should be toward the center of the pile. Use pyramid method when piles are over five feet high.
  - Barrels, kegs and drums, if piled on end, should have planks between. If piled on sides, block the first row securely.
  - Boxes and crates should be stacked on the side having the greatest area, unless the contents, such as serrated glass, require special handling.
  - Loaded cardboard cartons should be piled with care because of their inherent weakness. They should be protected from moisture to prevent collapse.
  - Cement should not be stacked more than 10 sacks high, to prevent tipping and to avoid awkward heavy lifting.

V. Lifting and Carrying

- Improper technique and extreme dead lifting attempts are the leading causes of back injuries and muscle strains. A few precautions and good techniques can reduce or eliminate injuries:

- Preparing to Lift:
    - Size up the job and figure out the easiest and safest way to do it.
    - Call for whatever additional equipment or assistance you need; use mechanical lifting (forklift etc.) when in doubt. Otherwise, call for a buddy and use team-lift.
    - Check out and clear the path to be traveled.
    - Decide what signals may be necessary for coordinating the job and who will call them.
    - Go through a practice run if necessary.
    - Get together the protection equipment you'll need to do the job safely: gloves, hard hat, safety glasses, etc.
    - Be sure you are physically ready to lift. Do some warm-up and stretching exercises, especially if it is first thing on a cold morning.
    - Remove any protruding nails or sharp edges from the object to be carried.
    - Call for a rest before you're exhausted.
    - Long objects like ladders, lumber, or pipe should generally be carried over the shoulder - the same (right or left) shoulder when involving two or more people. The front end should be carried above head height when rounding blind corners.
    - It's often advisable for workers carrying a long object such as a stretcher to walk out-of-step, i.e., one starting on the right foot, the other on the left. This smooths out the ride.
- Lifting
    - Center yourself with feet shoulder width apart. Remember to BEND YOUR KNEES.
    - Get as close to the load as possible. Squat; don't crouch.
    - Keep the back as straight as possible, avoid arching.
    - Grip the object firmly and keep this grip until the object is safely down. If you feel you are losing your grip, notify anyone helping you, then set down carefully and start again.
    - Lift with the legs, not with the back.
    - Use equipment whenever possible; make sure this equipment is in good condition before using it.
    - Avoid lifting with a jerk; use a smooth, continuous motion.
    - Avoid lifting heavy objects when you are ill or have lost sleep. Don't go beyond your endurance.
    - Don't try to throw or catch heavy objects.

        - Avoid reaching for heavy objects or twisting the body while lifting.
    - Carrying
        - Try not to change your grip in mid-course.
        - Always keep the load close to your body.
        - Maintain an even slow-to-medium pace.
        - Be sure you can see around the load.
    - Setting Down
        - Good techniques for setting down are just the "reverse" of those for lifting.
        - Don't wait until you are exhausted or straining before setting down for a rest.
        - While you can lift an object safely, you might need more help to set it down safely.
    - Weightlifting Limit
        - Employees are encouraged not to attempt to lift more than seventy-five pounds without assistance of another employee or mechanical aids.

VI. Sanitation

- Garbage Handling
    - Use gloves or litter sticks when picking up litter; try to sweep up broken glass rather than picking up, even with gloved hands.
    - Wash up thoroughly when finished, and before eating or smoking.
    - Promptly treat even minor cuts. If you need assistance with this, call a supervisor or the Safety Representative.
    - Observe safe lifting practices; get help for heavy cans or bags.
- Restroom Cleaning
    - Wear rubber or disposable latex gloves and avoid contacting unclean restroom surfaces with bare hands or arms. Rubber gloves should be disinfected with a mild bleach solution between tasks or disposed of if torn or leaking. The Park Supervisor will provide appropriate gloves.
    - Use a strong disinfectant regularly for cleaning restroom surfaces. Straight water will make them look clean but won't kill potential harmful bacteria. Never mix cleaning solutions (i.e., acid with base), and rinse away all residues of cleaning solutions (Ajax, bowl cleaner, etc.) before moving on to the next step.
    - Wash thoroughly when finished, and promptly treat even minor cuts incurred while restroom cleaning.
    - Properly dispose of rags used for wiping restroom surfaces.
    - Keep restrooms in the same good condition you would expect at home.

- Manholes and Other Confined Spaces
    - IMPORTANT -- SEE WORKING IN CONFINED SPACES SECTION AND APPENDIX C
    - Enclosed space may contain flammable, explosive, or poisonous gases or a deficiency of oxygen. Test for contaminants and lack of oxygen. Also inspect for chemical or biological hazards, such as black widow spiders, rattlesnakes, or other insects/animals that may pose a risk to entrants into the space.
    - Check the physical and structural conditions:
    - Ladder rungs; are they secure? Are they rusting?
    - Faulty inside release locking systems in dry well sewer lift stations.
    - Dry well stations; two-man operation: one stays on top for safety of person entering confined space. Check with a Workman's Compensation Industrial Hygienist and the Safety Representative, to see if safety rope and hoist are necessary.
    - Never leave a confined space open, due to children's curiosity and public safety, and possible vandalism to station.

VII. Mowing

Follow the provision in the Machine Equipment Safety section governing operator qualifications and authorization, safety features, auxiliary safety supplies, maintenance and operation.

- Guidelines for mowing operations:
    - Always keep people away from the area of operation of the mowers. If necessary, postpone the job when people are using the area to be mowed.
    - Before starting operation, clear the entire lawn area of debris (rocks, branches, litter, etc.) that can be thrown by the blade.
    - Plan the cutting operation so it is not necessary to pull the mower rearward toward you, particularly on a downgrade.
    - When you mow on rough terrain or in high grass or weeds, the blade should be set at the highest cutting point to minimize debris being ejected from the mower.
    - Do not operate power mowers in wet grass. This clogs the mower and increases the danger of your slipping and falling, and possibly coming into contact with the blade.
    - Mower guards should be in place before operation and remain in place at all times during the operation.
    - Fill gasoline-driven mowers outdoors. Avoid spilling gasoline and never fill the tank while engine is running or while you are smoking.
    - Don't mow when barefoot or wearing open sandals. Provide protection by wearing long, heavy denim trousers. If you have safety shoes, wear them. Eye and ear protection must also be worn.

- Don't start the engine and blade until you are ready to start mowing. Stop the engine whenever you leave the mower.
- Give complete and undivided attention to the job.
- Don't over-speed the engine. Excessive speed or tampering with the governor can be dangerous.
- Start the mower carefully. Stand firmly with your feet away from the blade. Be sure the mower will not tip or roll during the starting operation.
- Keep in step with the mower. If you lag behind or let it pull you, you will not be in full command of the machine. Do not run.
- When operating over uneven terrain and slopes, always use extreme care and make sure of solid and firm footing at all times. If hazardous conditions arise, stop the engine immediately and address the situation before commencing the operation.
- Exercise special care when mowing around objects to prevent the blades from striking them. Never deliberately mow over any object.
- Stop operation and shut off engine when another person approaches. Do not pass or stand on the grass-discharge side of the mower with the engine running.
- Prohibit others from riding with you on a riding mower.
- Riding-type mowers are like small tractors. It is possible to tip these mowers to either the back or side. Exercise extreme caution when using riding mowers on slopes or inclines.
- Turn off engine and disconnect the battery before attempting to free mower blades of sticks, stones, string or other materials.
- Strictly follow the manufacturer's recommendations for maintenance.
- A competent mechanic should make a thorough inspection of the mower at least once a year.
- Never adjust the mower or change attachments until the engine has been turned off and the battery disconnected. It is possible that the engine could start if the blade or cutter bar were turned while making an adjustment or repair.
- If carburetor adjustment is necessary, stand to one side and keep feet and hands in the clear while making adjustments.
- Store power mowers in a cool, dry place when not in use.
- Optimum mowing results and safety can be expected only if the mower is maintained and operated correctly.
- Edgers and trimmers should be operated only by qualified personnel. Face shields must be worn.

VIII. Tree Felling, Limbing and Bucking

The felling of trees shall take place under the supervision of a qualified feller. The supervisor of a tree-felling operation shall give thorough instruction before work begins to assess the hazards that will be encountered, decide what procedures will be followed, and assign duties to each worker.

- Only people expert in tree-felling shall attempt to fell trees in a specific direction, in developed or residential areas.
- Procedure - Use the following procedure for felling trees in their natural direction in undeveloped, unrestricted areas:
- Determine direction by considering distribution, size and weight of branches, lean of tree, wind velocity and direction.
- Check the nearby hazards: vehicles and equipment, people, power lines, trees that might deflect the falling tree, and widow-makers.
- Clear the area: remove brush around trunk, remove loose bark, establish secure footing, PREPARE AN ESCAPE ROUTE, and always work with a partner who can observe the tree and the surrounding area and call out a warning or assist, in case of an emergency. ALWAYS WEAR A HARD HAT.
- Undercutting and Back Cutting: Saw an undercut on the side of the tree that faces the direction of the fall. This undercut should be about one-third the diameter of the tree. If the tree is leaning markedly, the undercut may be less than one third. This will prevent the saw from binding. An undercut consists of removing a wedge-shaped block produced by first sawing a horizontal (under-cut), then an angled cut (top cut). An axe will occasionally be helpful in removing the sawed block. Make the back cut exactly opposite the undercut, except that the back cut should be made several inches above the undercut. When the back cut reaches a point above the undercut, wedges may be needed to start the tree on its fall.
- Warning Cry - When the tree begins to fall, the sawyer shall call "TIMBER" in a loud voice.
- Where to Stand - As the tree begins to fall, shut off saw and stand to the side, behind and away from the direction of the falling tree. Stand at least ten feet from the stump. Keep your eyes on the tree as it drops.
- Fatigue - One of the causes of accidents in tree felling is impairment of good judgement caused by fatigue. Always take your time, and never overtire yourself.
- A flag person shall be stationed when felling is planned across or alongside any traveled route, unless that road or trail can be effectively blocked and signed in advance.
- Once started, the felling job shall be completed before the crew leaves for break, lunch, or at the end of the day.

- Limbing a Fallen Tree:
  - On small logs, stand on the opposite side from the limb being cut.
  - If on a hillside, work on the uphill side.
  - Make sure you have good footing.
  - Do not cut limbs that are propping the log.
  - Work from the butt end toward the tree top.
- Bucking a Log:
  - Swamp out brush to clear up the work area.
  - Block the log if necessary, so that it will not roll.
  - If on a hillside, work on the uphill side.
  - Slope the cut so that the log drop will open the cut.
  - Do not attempt dangerous cuts - wait until the log is moved to a safe area.
  - Do not leave the site until you are certain that all logs are secured against sliding or rolling.
  - Avoid standing on log being bucked.

IX. Welding and Cutting

- Only competent welders, mechanics, machinists or specially qualified workers may use welding equipment.
- Clothing that protects the hands, arms and body, including trousers without cuffs and flameproof gauntlet gloves must be worn.
- Welding helmets or goggles must be worn by welders and helpers.
- Fire extinguishing equipment must be readily accessible during all “Hot Work” operations, which include welding or oxy-acetylene torch cutting.
- Welding must be done behind a screen if other workers without hoods or goggles are subject to flash burns. Adequate exhaust or supply ventilation must be provided.
- Before cutting into tanks or drums, their contents must be carefully determined. They should be drained, steam-cleaned and dried if they show evidence of oil, gasoline, or other flammable materials. They should be filled with water up to point to be welded, with a hole for steam to escape.
- When welding brass or zinc-coated (galvanized) metal, the job must be done with good air circulation, or a respirator used. DO NOT BREATHE THE FUMES.
- Adequate ventilation must be provided when welding indoors or in confined spaces. Welding or cutting cylinders (propane, CD-25, oxygen, acetylene etc.) are never to be in any confined space.
- Keep sparks and flames away from cylinders and hose lines.

- Inspect hose lines, valves, and regulators frequently. Replace or repair worn items immediately. Keep hoses and regulators free of oil or grease.
- Oxygen or acetylene must not be discharged needlessly through the torch before lighting.
- Oxygen or other gases must never be used where oils or any combustible liquids are present. If oxygen and oil mix, there will be an explosion!

- A Welder must:
    - Shut off gases when putting down a welding or cutting torch.
    - Avoid excessive pressures.
    - Turn off valves, and relieve pressure in lines and gauges, for overnight storage.
    - Always protect hoses from possible damage.
    - Check all gauges, valves, and regulators frequently.
    - Cylinders must not be subjected to temperatures above 130 degrees F.
    - Use, store, and transport cylinders in the upright position only.
    - Oxygen cylinders must not be handled with greasy or oily hands, gloves or rags.
    - Before moving cylinders, the valves must be closed, regulator removed, and valve protective cap in place.
    - Stored cylinders of oxygen and acetylene should be separated by appropriate distance in a dry place away from stoves, heat and flammable material, especially oils and greases.
    - Provide individual chains or other supporting devices to keep cylinders in a vertical position.
    - All electrical connections must be checked before starting work.
    - The welding machine must be grounded. Provide warning signs to prevent eye injuries to other workers.
    - Check the cables regularly and replace them when worn.

X. Fencing

- Wear heavy gloves when working with barbed wire. Leather apron, safety boots and eye protection are optional, depending on the job hazards.
- Lay posts up and downhill to prevent rolling.
- Before crawling under a fence, place the carried objects on the other side.
- Mount wire spool securely before rolling wire out. Pull in slow steady motion; avoid jerking.
- Don't cut wire under tension unless it is secured on both sides of the point to be cut.
- Avoid driving fence staples to the point where the galvanized covering is damaged or where the wire might be severed and lash back.
- A commercial post driver should be used with metal fence posts. The driver should be about 42 inches long, weigh about 15 pounds, and have one end welded shut.
- Kinks should be spliced or straightened BEFORE stretching the wire.

- Old wire should be checked for nicks, weak spots, and splices before reusing.
- Use stretchers of heavy construction with ropes not smaller than one-half inch.

- All workers not needed in the stretching operation must stand clear.
- Limit the span being stretched to visible distance.
- Stretch the bottom wire first.
- Avoid holding wire under tension with hands. Use pliers or hammer instead.

XI. Concrete; Brick and Stonework

- Mixers and wheelbarrows must not be used beyond their capacity or loaded to where a worker must strain to use them.
- Forms must be designed and constructed to carry the wet concrete load safely.
- Remove nails or screws from form boards being dismantled.
- Avoid leaving wire ends and sharp ends of reinforcing exposed.
- Elevated runways or ramps for pushing materials to and from the mixer must be well supported. The incline should be no greater than 1-foot rise to 5 feet horizontal.
- Use blocks or cleats to stop wheelbarrows or buggies when dumping materials.
- Back filling must not be done against green (uncured) walls.
- Wear eye protection when loading a mixer. Dust respirators are also recommended.
- Keep the immediate areas around mixers clean and free from waste material.
- Inspect the mixer periodically for defective parts.
- Concrete and brick/stone operations usually call for good teamwork. Good teamwork requires everyone getting the general picture. A briefing before the job will serve this purpose well.

XII. Rigging

- Only specially qualified employees may tie on, signal, or operate hoists or booms.
- All employees shall keep away from moving lines, lines and blocks under strain, and suspended loads. REMEMBER: NEVER WALK UNDER A SUSPENDED LOAD.
- Remove from service any drums, sheaves or pulleys with eccentric bores or cracked hubs, spokes or flanges; hooks, shackles, rings and slings that have been bent, spread or otherwise damaged; and frayed ropes and cables.
- Manila fiber is preferable to other kinds of fiber rope for rigging.

- Inspect used ropes frequently for broken strands, cuts and worn or frayed spots. Replace worn rope.
- Store ropes away from acids and fumes. Allow good air circulation, and keep dry.
- New rope should be coiled from the inside to prevent kinking.
- Don't drag rope over rough surfaces.
- Dry wet rope after use; but don't dry against stove or other heat source.
- Replace cables that have broken or frayed strands, or that have become kinked.
- Always use leather gloves for handling cable.
- Keep hands off a cable feeding drum, pulley or sheaves.
- All clamps shall be attached with the "U" over the short end of the cable; remember “never saddle a dead horse”.

Correct

Incorrect

Incorrect

- Stand clear of cables under stress.
- Inspect chains frequently for cracks, corrosion, pits, signs of crystallization, and deformed, stretched, weak or gouged links.
- Never twist or kink chains that are used under heavy loads.
- Avoid sudden shocks and overloading.
- After hitching chains to objects such as logs, stumps, or machines, bystanders must stand away from the tractor and load the same distance as the length of chain between them.

XIII. Chemicals/Spraying

Few chemicals are completely harmless. Many injure tissue by burning, blistering, disintegration and disorganization, both externally and internally. Most insecticides, herbicides, and poisons are more readily absorbed when in an oil or solvent than when dry or in a water solution.

- Lethal Doses - Such doses can be absorbed through the skin, lungs or by mouth. Precautions must be taken, including:

- Clothing and safety devices will not provide complete protection. Care in handling dangerous chemicals is essential.
- Follow manufacturer's instructions regarding handling, storage, and use of chemicals.
- Persons with allergies to certain chemicals must not be assigned to work with them.
- Personal cleanliness is essential when using chemicals. Frequent changes of gloves and clothing may be necessary to prevent allergic reactions. Wash face and hands with soap and water after using chemicals, before meals or breaks.
- A certified pesticide applicator will be assigned to monitor the project use of agricultural chemicals, including: transporting, mixing, storing, and disposal. This person will be designated after showing thorough knowledge of the safe handling techniques to be used.
- Before embarking on an agricultural chemical use project, an employee certified in pesticide application will brief the work group in detail, on the job plan and familiarize them with the hazards, emergency procedures, check over the Safety Data Sheets (SDS) and Hazard Communications Program.
- Read labels and SDS's as noted in Section III, E. Hazard Communication Program.

- Restricted Material Permit - Guidelines for Issuance and Pest Control Operator (PCO) Registration

- Pesticide Use Requirements:
  - Recognize the danger
  - Know the pest
  - Use pesticide according to labeling
  - Use only when the commodity and pest(s) targeted are listed on the label, and the timing and method of application and recommended rate of application are followed.
  - Know signal words and symbols that identify toxicity and hazard.
  - "DANGER" - CATEGORY 1
  - "WARNING" - CATEGORY 2
  - "CAUTION" - CATEGORY 3
  - Use protective clothing and safety equipment
  - Know poisoning symptoms and emergency procedures.
  - Comply with pre-harvest and safety intervals.

- Transportation, Storage and Disposal

    - Use sideboards or tie down the load.
    - Lock storage area.
    - Post warning signs (CATEGORY 1 AND 2)
    - Rinse emptied containers.
    - Dispose of containers at approved disposal site.
- Applicator Responsibilities:
    - Keep pest control equipment in good repair and accurately calibrated.
    - Use accurate weighing and measuring devices.
    - Maintain uniform mixture.
    - Thoroughly clean all equipment, when necessary to prevent contamination.
    - Perform all pest control under suitable climatic conditions.
    - Use only suitable equipment and methods of application.
- Local Environmental Concerns:
    - Be careful around picnic areas, campgrounds and recreational areas, roads, water, livestock, wildlife, etc.
    - Protect bees.
    - Consider adverse effects to the environment.
    - Consider alternative materials or procedures.
- Pesticide Use Reports:
    - Submit reports as required.
- Mixers/Loaders/Applicators:
    - Employees must be trained in correct procedures for use and cleanup.
    - Arrange in advance for emergency medical care, and keep this info posted at the work site.
    - Do not allow employees to work alone with toxicity CATEGORY 1 pesticides.
    - Provide a changing area.
    - Provide washing facilities at work site.
    - Assure that protective clothing and safety equipment is provided and used.
    - Provide closed mixing system (CATEGORY 1 LIQUID).

- Employer's Responsibilities Concerning Workers:
    - Arrange in advance for emergency medical care.
    - Inform field work supervisors of the usual symptoms of Organo-Phosphate and Carbamate Poisoning.

- Immediately take all ill persons to the facility providing medical care.
- Comply with safety intervals.
- Keep pesticide use records.
- Comply with warning and posting requirements.

• XIV. Working with Patrol Boats

- Wearing of a Coast Guard approved Personal Floatation Device, or PFD (Type I, II or III) is required for each person in a boat. NOTE: Floating seat cushions are not considered adequate protection.

- Required certified training is mandatory for all boat operators. The minimum safe boating training is a certificate from the Division of Wildlife, Navigating Nevada Safe Boating course, the U.S. Coast Guard Auxiliary, Boating Skills and Seamanship course, or courses offered by the U.S. Power Squadron.

- The operator or pilot of any division owned power boat, including personnel watercraft, will be trained and certified from one of the above training sources. At least one employee in any non-powered canoe, raft or barge will also be required to have completed the above required training.
- Equip and operate boats and vessels according to United States Coast Guard and State rules and regulations.

- Keep boats, outboard engines, fire equipment, and oars in good operating condition.

- Boats must only be operated by trained and authorized operators.

- Boats should never be overloaded. The maximum safe load limit should be posted clearly on each boat.

- Any worker frequently sent out in a boat must be able to swim.

- Workers and patrol personnel should never travel alone by boat to isolated areas. If there is no other alternative, be sure to leave your itinerary with someone responsible.

- If your boat capsizes and for some reason you are not wearing a PFD, outer clothing should not be discarded as the air trapped in them will help you stay afloat while retaining body heat. The air trapped in them will also help you hang onto a boat, or anything else that is floating, until help arrives. Avoid swimming long distances to shore. (ref. Navigating Nevada)

- When transporting cargo, balance the load evenly and secure it against shifting during motion. When possible, always load and unload from the side rather than over the end.

- Don't stand up, change places, or make sudden moves in a boat.

- The interior bottoms of metal and plastic boats should be given a coat of non-skid paint.

- Carry spare gasoline only in an approved safety can.

- Bad weather is the number 1 enemy of small craft. If a storm or squall blows up while you are out, seat your passengers on the bottom of the boat, keeping them close to the centerline. Slow down and head into the waves. Head for the nearest shore shelter.

- Before refueling outboards, put out all flame or spark producing machinery; have a fire extinguisher nearby. Keep the nozzle or fill can in contact with the tank to prevent static spark. Don't fill tank completely - allow for expansion.

XV. Working with Chlorinators

- General - Chlorine gas is primarily a respiratory irritant, so intensely irritating that low concentrations are readily detectable. Sufficient exposure will irritate mucous membranes, irritate the eyes, and cause coughing and labored breathing. However, the Permissible Exposure Limit (PEL) for an 8-hour exposure (1 part per million parts of air) is below the odor threshold. Consequently, careful adherence to prescribed maintenance procedures is required. Liquid and powdered forms are preferred over the gaseous form, for safety reasons.

- Chlorinator Maintenance and Service - Only authorized personnel shall perform maintenance and service on chlorinator systems, including mixing of solutions. All personnel assigned to facilities equipped with chlorinators shall be instructed in emergency procedures and in proper procedures for shutting down the chlorinator.
    - Start-up, servicing and maintenance of chlorinators shall be according to the Park's Operation Procedures and manufacturer's recommendations.

- Emergency Procedures - All personnel authorized to service and maintain chlorinator systems shall be trained in the use and care of the gas masks. The odor of chlorine does not necessarily indicate a serious emergency, but odor is a symptom of possible leakage that should be investigated.

- If there is any doubt about the severity of the leak, call the nearest Fire Station for assistance. Fire Personnel shall use Self-Contained Breathing Apparatus (SCBA) when entering chlorinator stations. If the leakage is apparently extensive, besides notifying the Fire Department, attempt to clear the areas of personnel and warn others who may be in the path of the vapors. If the leak is minor, authorized personnel may enter the chlorinator station, providing they are equipped with a chlorine canister gas mask. Masks shall be worn before entering the chlorinator space if there is any doubt about the extensiveness of the leak.

- Leaks in the system can be stopped by turning off the pumps to the tanks currently online. System leaks shall not be repaired, except by qualified personnel and then only after thorough ventilation of the chlorinator space.

XVI. Motorized Equipment

- Motorized equipment shall be defined as watercraft, Off-Highway Vehicles (OHV's), utility vehicles, snowmobiles and other types of self-propelled devices. A sponsored training course on safety and operations should be taken by each operator, when applicable. Before use, when such courses are not available, a skilled operator must review safe operations with all operators.

- Sponsored courses include, but are not limited to:
    - For watercraft:
    - Nevada Department of Wildlife, Navigating Nevada.
    - U.S. Coast Guard Auxiliary, Boating Skills and Seamanship.

- For snowmobiles:
    - Preferred, at the minimum, equipment dealership training.

- For other types of self-propelled equipment:
    - OHVs and Utility Vehicles; preferred, at the minimum, equipment dealership training, or when such courses are not available, a skilled operator must review safe operations with all new operators, or the operator can sign-off on the operation manual.

HAZARD COMMUNICATION PROGRAM - CHEMICALS IN THE WORKPLACE

I. Introduction

The State of Nevada has adopted a Hazardous Communication Standard, 29 CFR 1910.1200 (see Appendix A) to ensure the hazards of chemicals are evaluated and information is then transmitted to affected personnel.

Each Region and Park Unit will have a Hazard Communication Program (HCP). The HCP will be used to make our employees aware of the safety and health hazards associated with chemical substances produced, used or transported throughout our facilities. Its purpose is to ensure the hazards of chemicals used are evaluated, and information concerning their hazards is transmitted to employees. This transmittal of information is to be done by comprehensive hazard communication programs, which include container labeling and other forms of warning, Safety Data Sheets (SDS's), and employee training. Each Facility Manager will develop, implement, and maintain at the park and region, a written Hazard Communication Program for their workplace. Facility Managers must inform park employees of the availability of the program, and ensure affected employees read and understand the list(s) of hazardous chemicals and applicable Safety Data Sheets (SDS).

II. Hazardous Chemical Inventory

A. **Hazardous Chemicals List** - A current list of hazardous chemicals used in each park will be developed and maintained. This list will be available to all employees. (see Appendix B for inventory form)

B. **Containers** - Any container of chemical coming into the work area that does not appear on the chemical inventory list or is missing its label or other form of identification will not be released for use until the supplier has been contacted for appropriate Safety Data Sheet (SDS) and labels. Interim labeling will be required according to Section III (see Appendix D).

III. Container Labeling

The Park Supervisor will ensure the proper labeling of each container of hazardous chemicals in the workplace, tagged or marked with the identity of the hazardous chemical(s) contained therein, and must show hazard warnings appropriate for employee protection. He/she is also responsible for assuring that labeling procedures are followed. He/she is also responsible for providing information regarding labels, their warnings, chemical use and hazards, to workers using or working around hazardous chemicals and those who may respond to emergencies involving hazardous chemicals. This will be done by first-hand instruction and oral and written communication.

A. **Receiving Hazardous Chemicals** - Upon receipt of a hazardous chemical, the safety officer shall verify the label contains the following:

1. **Contents** - This identifies the hazardous chemical(s) contained therein, with an appropriate hazard warning. The warning on the label must denote the hazard as specifically as possible. For example, if a chemical can cause damage, a general warning such as "caution," "danger," or "harmful if inhaled" is not sufficient. The appropriate warning is "causes lung damage." A more general warning, such as "harmful if inhaled," is appropriate only if a target organ cannot be identified.

   When the label does not contain the appropriate information, the following procedure will be followed before the container is placed in the work area. If an SDS is on file, a copy should be temporarily affixed to the container or to the immediate storage area. Each Park Supervisor will obtain and affix permanent labels as soon as possible, using either the manufacturer's label or one meeting OSHA guidelines. If an SDS is not on file, the manufacturer or distributor will be called to obtain the information required by 3.a.1 and 3.a.2. The telephone call will be followed with a letter to the manufacturer or distributor (see Appendix D).

   Labels are not to be removed or defaced unless the containers are immediately marked with the required information. All labels will be in English. Other languages may be added, as determined necessary by the Park Supervisor.

2. **Portable/Secondary Containers** - These will be labeled when they are used by other than the employee performing the transfer. No label is required if the material is used immediately **only** by the person performing the transfer, and disposed of when he/she is done using it. According to OSHA, the person must not leave the container unsupervised, even if he/she takes a break. It is safer to label containers than to leave it to chance.

IV. Safety Data Sheets (SDS)

The Park Supervisor will provide employees information and training on hazardous chemicals in their work area at the time of their initial assignment, and whenever a new chemical is introduced into their work area. Park Supervisors will also provide employees with information on any operations in their work area where hazardous chemicals are present, as well as the location and availability of the written hazard communication program, including the required Safety Data Sheets.

A. **SDS** - These shall be requested for all materials on the chemical inventory per paragraph II.a. The sheets will be maintained in a central location and in park files. When received, new SDS's will be added. The retention schedule for SDS sheets is 30 years from the last time a product is exposed to any employee. *(See sample form in Appendix E.)*

B. **SDS for New Chemicals** - SDS shall be requested by the person making the order, for all new chemicals not presently or previously in use.

C. **Availability -** All SDS shall be available to all employees and readily accessible during each work shift. The Park Supervisor will maintain a "Right to Know" station that will

contain all SDS, the HCP, and other appropriate materials and records. This station will be highly visible located in an area frequented by employees who use or work around hazardous materials. Workman's Compensation recommends copies be kept in every area where materials are stored or used, for added safety of employees using the products. Safety Data Sheets should be maintained where chemicals are stored for quick access. A master book with sign off sheets will be maintained in the office or shop.

V. Employee Training

A. **Instruction -** Any employee, new or seasoned, who must use or work around hazardous chemicals, or who may respond to an emergency involving hazardous chemicals, will be trained, and receive required training by the Park Supervisor. Training may be by lecture, video, CD/DVD slides/tape programs, written materials and other available sources.

B. **New Chemicals -** When a new hazardous chemical is introduced into the work place, the Park Supervisor will provide training to all affected employees on the SDS, hazards, and emergency procedures associated with the chemical.

C. **Elements of Employee Training** - This will consist of the following:

- Information on the requirements of the Hazard Communication Regulation 29 CFR 1910.1200.
- Information on safety and operating procedures in their work areas where hazardous chemicals are present.
- An explanation of SDS, with respect to the physical and health hazard of the chemicals and the container labeling system, per paragraph 3.
- Physical and health hazards.
- Methods employees can use to protect themselves, such as work practices and the use of any necessary personal protective equipment.
- The location and availability of the park unit's written Hazard Communication Program, including SDS.
- Protective measures to be followed if exposure might occur during performance of non-routine tasks, especially if these tasks occur in areas containing unlabeled vessels or pipes. Employees also will be advised of hazardous and protective measures for spills and other potential exposure.
- Information on the monitoring system employed by the Division and other methods (including how to read an SDS) and observations that may be used to detect the presence or release of a hazardous chemical in the work place.
- Details of the Hazard Communication Program.

- An explanation of the existing safety rules and a statement of the disciplinary actions that will be taken for any employee violations.

VI. **Outside Contractors Requirements**

Outside contractors will be informed by the Facility Manager of the hazardous chemicals in the park to which their employees may be exposed, the labeling system, and precautionary measures. They and their employees will be required to abide by park safety rules, and review and follow the requirements of this Hazard Communication Program.

The Facility Manager will obtain SDS(s) of any hazardous chemical used by an outside contractor, review it and outline the appropriate action taken to protect Division employees.

VII. **Designation of Responsibilities**

Each Region and Park unit will have a Hazard Communication Program. The Facility Manger will develop a program specific to the area and to the hazardous materials used. He/she may designate responsible person(s) to help and be responsible for the Hazardous Material Inventory, Safety Data Sheets and the Employee Training Program. In essence, this section of the Safety Manual may become a part of the park's Hazard Communication Program. In a one-person park, Region personnel may be assigned some responsibilities. Hazmat permits are due by March 1 of each year.

BLOODBORNE PATHOGENS STANDARD

I. General

OSHA 29 CFR 1910.1030 requires precautions be taken to limit occupational exposure to blood and other potential infectious materials since any exposure could result in transmission of blood borne pathogens that could lead to disease or death. This section summarizes the federal standard.

This standard covers **all employees** who could be "reasonably anticipated" as the result of performing their job duties to face **contact with blood** and other potential infectious materials. OSHA has not attempted to list all occupations where exposure could occur. "Good Samaritan" acts such as helping a person with a nosebleed would not be considered occupational exposure.

II. Infectious Materials

Infectious materials include semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial procedures, any body fluid visibly contaminated with blood and all body fluids. They also include any unfixed or broken tissue or organ, other than intact skin from a human (living or dead), and Human Immunodeficiency Virus (HIV)-containing cell or tissue cultures, organ cultures and HIV or hepatitis B (HBV)-containing culture medium or other solutions as well as blood, organs, or other tissues from experimental animals infected with HIV or HBV.

III. Affected Workers

- Healthcare Workers (Hospital, Dental Office, and Physician Office)
- Residential Care, Home Health Care, Hospice and Nursing Home/Long Term Care Workers who could be reasonably anticipated to be exposed to potentially HIV/HBV infectious material.
- Staff of Institutions for the Developmentally Disabled.
- Laundry Workers who handle soiled linen for healthcare facilities, public safety, and other potentially HIV/HBV infectious material.
- Housekeeping Workers at healthcare facilities.
- Funeral Service workers.
- Medical Waste Operation Workers.
- **Public Safety and Emergency Medical Service Workers.**
- **Law Enforcement Officers** and Correctional Officers.
- **Lifeguards.**

IV. Exposure Control Plan

An exposure control plan is required for each park. It requires the Park Supervisor to **identify, in writing**, tasks and procedures and job classifications **where occupational exposure to blood occurs**

without regard to personal protective clothing and equipment. It also must set forth a **schedule for carrying out other provisions** of this standard and specify the procedure for evaluating circumstances surrounding exposure incidents. The plan must be accessible to employees and available to OSHA. The Safety Officer must review and update it at least annually, and more often if necessary, to fit workplace changes.

V. **Methods of Compliance**

The standard mandates **universal precautions** (treating body fluids/materials as if infectious), **emphasizing engineering, and workplace controls**. The standard stresses hand washing and requires employers to provide facilities and ensure that employees use them following exposure to blood. It sets forth procedures to minimize needle stick, minimize splashing and spraying of blood, ensure appropriate packaging of specimens, regulate wastes, and decontamination of equipment or label it as contaminated.

The Division must provide, at no cost, and **require** employees to use appropriate **Personal Protective Equipment** such as gloves, gowns, masks, mouthpieces and resuscitation bags and must clean, repair and replace these as necessary. Gloves will be required for custodial routines. Gloves will be made available to employees.

The standard requires a **written schedule for cleaning**, identifying the method of decontamination to be used, besides cleaning, following contact with blood or other potentially infectious materials. It specifies methods for disposing of contaminated sharp materials and sets forth standards for containers for these items and other regulated waste.

VI. **Hepatitis B Vaccination**

The standard requires vaccinations to be made **available to all employees who have occupational exposure to blood** within 10 working days of assignment, at no cost, at a reasonable time and place, under the supervision of a licensed physician/licensed healthcare professional and according to the latest recommendations of the U.S. Public Health Service (USPHS). **Pre-screening may not be required** as a condition of receiving the vaccine. Employees must sign a **declaration form** if they choose not to be vaccinated but may later opt to receive the vaccine at no cost to the employee. Should booster doses later be recommended by the USPHS, employees must be offered at that time.

VII. **Post-Exposure Evaluation and Follow-Up**

Specific procedures to be made **available to all employees who have had an exposure incident,** plus any laboratory test must be conducted by an accredited laboratory at no cost to the employee. Follow-up must include a **confidential medical evaluation** documenting the circumstances of exposure, identifying and testing the source individual if feasible, testing the exposed employee's blood if he/she consents, post-exposure prophylaxis (action taken to prevent disease, especially by specified means or against a specified disease), counseling, and evaluation of reported illnesses. Healthcare professionals must be provided specified information to facilitate the evaluation and their written opinion on the need for hepatitis B vaccination following the exposure. Information such as the employee's ability to receive the hepatitis B vaccine must be supplied to the employer. All diagnoses must remain confidential.

VIII. **Hazard Communication**

The standard requires **warning labels** including the **orange or orange-red biohazard symbol** be affixed to containers of regulated waste, refrigerators, freezers, and other containers that are used to store or transport blood or other potentially infectious materials. **Red bags** or containers **may be used** instead of labeling

IX. **Information and Training**

Information and Training are mandated to employees **initially** upon assignment and then **annually**, *as needed*. Employees who have received appropriate training within the past year need only receive additional training in items not previously covered. Training must include making accessible a copy of the regulatory text of the standard and explanation of its contents, general discussion on blood borne diseases and their transmission, exposure control plan, engineering and work practice controls, personal protective equipment, hepatitis B vaccine, response to emergencies involving blood, how to handle exposure incidents, the post-exposure evaluations and follow-up program, and signs/labels/color-coding. There must be an **opportunity for questions and answers**, and the **trainer must be knowledgeable** in the subject matter.

X. Record Keeping

The standard calls for medical records be kept for each employee with occupational exposure for the **duration of employment plus 30 years.** This information will be placed in his/her main personnel file. The file must be **confidential** and must include name and social security numbers, hepatitis B vaccination status (including dates), results of any examination, medical testing and follow-up procedures, a copy of the healthcare professional's written opinion, and a copy of information provided to the healthcare professional. Training records must be maintained for three years and must include dates, content of the training program or a summary, trainer's name and qualifications, as well as names and job titles of persons attending the sessions. Medical records must be made **available to the subject employee**, anyone with written consent of the employee, OSHA, and Nevada Department of Industrial Relations. Disposal of records must be in accordance with OSHA's standard covering access to records.

XI. Dates

Exposure control plans were to be completed within 5 months of being published in the Federal Register. An Exposure Control Plan must be completed within two months of receiving this manual. Information and Training requirements, engineering and work practice controls, personal protective equipment, housekeeping, special provisions covering hepatitis B vaccination, post-exposure evaluation, follow-up, and labels and signs, should take effect within 30 days of the plan.

NATURAL HAZARDS

I. General

Typical natural hazards are poisonous plants, poisonous insects and spiders, rattlesnakes, rabid animals, barrier and other nuisance plants, and rough terrain. Minimum standards for the removal of natural hazards will be established by the Regional Manager.
For safety related to visitor safety, please also refer to Animal Bite under the ***Guidelines for Handling Emergency Situations with Park Visitors*** section.

II. Poisonous Plants

There are many plants that pose a hazard if eaten. A complete listing will be prepared by park staff. All personnel should be able to recognize those poisonous plants that predominate in the work area and how to handle cases of plant poisoning.

II.A Barrier and Nuisance Plants

Barrier plants are thistles, blackberries, nettles, wild rose, etc. These plants should be removed near picnic areas and trails. In other areas, they may prove useful to keep traffic out of hazardous areas.

III. Insects and Animals

Hazardous insects and spiders include: mosquitoes, scorpions, wasps, bees, black widow spiders, flies, ticks, yellow jackets, brown recluse spiders and ants. Don't just write off these insects as mere annoyances. Some may inflict only discomfort; others can be dangerously (even fatally) poisonous through bites and stings as disease carriers, or allergic reactions.

All personnel should be able to recognize and avoid these insect hazards and to handle accidents involving them. Here are some guidelines:

- Good housekeeping and sanitation practices will discourage flies, spiders, and other pests by not giving them a home or food supply.

- Employees who are allergic to insect stings should not be exposed to the hazard and should obtain an allergy medicine (Epi-Pen) from their doctor before possibly exposing themselves to the hazard. It is recommended that they keep the Epi-Pen with them at work, in case an unforeseen situation arises.

- Employees should be taught to recognize and avoid these insects and instructed in how to handle accidents or injuries involving them. Field personnel will be instructed by their supervisor.

A. Fire Ants

1. Health Hazards

- Fire ants attack without warning and they attack in a swarm, usually on a person's arm or leg. When one ant stings, the person will jerk, and this causes all the ants to sting.
- They grasp the skin with their jaws, arch the back and insert the rear end stinger into the flesh, injecting an alkaloid venom from the poison sac. They pivot their head and inflict seven or eight stings in a circular pattern.
- For humans, this is a painful sting, a sensation similar to what one feels when burned by fire (hence the name), and the after-effects of the sting can be deadly to sensitive people.
- The subject will most likely develop itchy hives at the sting site which usually subside within an hour; followed by small blisters within four hours. A white pustule (a small blister or pimple on the skin, containing pus) forms in eight to 24 hours; it ruptures and scars in 48 to 72 hours.
- Two percent of the population is susceptible to allergic reactions, which can be lethal. People with diabetes and circulatory disorders are especially at risk.

2. First Aid

For treatment, **SEEK IMMEDIATE MEDICAL ATTENTION**. Tips to alleviate discomfort until you get help are:

- Elevate the affected area.
- Apply ice.
- Gently clean the area to avoid infection, but do not break the blisters.
- Apply a soothing ointment.
- Administer an antihistamine.
- Watch for and treat anaphylactic shock (severe allergic reaction), by asking if the affected person has an Epi-Pen, and its location.

3. Preventative Measures

- Check all areas of your park for signs of ants or their mounds.
- Warn the public about the dangers of fire ants and keep visitors and pets away from suspicious areas.

- Sample suspicious red ants.
- Wear closed-toed shoes, socks and gloves when working outside.
- If you're insect/sting allergic, carry an emergency kit containing epinephrine and antihistamine, and take them both, immediately after a sting.

B. Africanized Honey Bees

1. Introduction

Their attacks can be a life-threatening emergency. Fortunately, rescue personnel can help people under attack by using modified equipment and materials found on fire trucks, ambulances and hazardous materials response vehicles.

2. Procedures

- It is recommended that upon identifying an active Africanized beehive in an area that is frequented by the public or the staff, to close the area at a minimum of 200 feet until the bees can be destroyed.
- Contact a professional exterminator or a properly trained employee(s) to destroy the Africanized bees.
- Swarming Africanized bees (no hive) are normally less aggressive. The area of the swarm needs to be posted and closed to the public until the bees leave or until a hive is located.
- If you respond to a bee attack, don't become another victim. Close off the area, call 911, keep others from entering the area, and wait for assistance.

3. First Aid - Untrained Person's Response

- Get someone to call 911 and report a massive bee attack, giving the location. A victim must always receive immediate medical attention.
- If you have access to a car, roll up all the windows and turn on the air conditioner full blast. Cool air slows the activity of bees. Call the victim to the car. Either drive them to the hospital or wait for an emergency vehicle. Remember that if you are in the car with them, you will be stung also, so if you are allergic to bee stings, you should not be in the vehicle.

- Do not approach within 200 yards of the bees or their source; you should be able to see where they are coming from.
- The best you may be able to do is lead a victim to a viable means of escape. Running immediately away from the bees into a car, house or some other shelter is the best hope for a victim.
- To attempt to rescue a victim who is disoriented, has fallen, or is in any way incapacitated, within 200 yards of the bees, you must have full protective gear.
- When possible, hose down the victim with water to remove bees then cover and get the victim to a vehicle for transport.

4. Preventative Measures

- Inspect your parks for honeybee colonies.
- Seal any opening larger than 1/8th inch, such as pipe entrances, and valve boxes.
- Repair or replace damaged vent screens on foundations or eaves.
- Trim overgrown shrubs or trees.
- Remove all empty containers and keep trash emptied.

5. Important Differences between Africanized and European Honey Bees

- Africanized honeybees will chase a person longer than European honeybees. Africanized: up to a quarter of a mile; European: 50 yards.

- Africanized honeybees will remain agitated longer after a colony has been disturbed. Africanized: 8 hours or longer; European: about an hour before becoming calm again.

- The distance to get a reaction from a colony is less for Africanized honeybees. Africanized: movement within 50 feet; European: movement within 100 ft.

C. Insect Bites - West Nile Virus

1. Introduction

West Nile virus (WNV) is a mosquito-borne virus that can cause illness in humans, including encephalitis (brain inflammation). Mosquitos acquire the virus from birds and pass it on to other birds, and occasionally to other animals and people. The virus is not spread by person-to-person contact. Symptoms are fever, headache, body aches, nausea, vomiting, skin rash on chest stomach and/or back, and swollen lymph glands (located in your head, neck, under your chin, in your armpits, and in your groin). Serious symptoms will include tremors, convulsions, muscle weakness, vision loss, numbness, and paralysis (the loss of the ability to move, and sometimes to feel anything, in part or most of the body). Symptoms can last for as short as a few days or up to several weeks. While most infections are mild, West Nile Encephalitis can result in death or serious brain damage. Prompt medical care is critical for those who experience serious symptoms.

2. Basic Orientation Training

All Division of State Parks employees need to be oriented to its potential dangers, transmission mode and basic precautions due to the likelihood of working in areas where there may be a potential exposure. Employees working around areas of water must use a higher level of protection to allow them to work safely in this environment.

Orientation training is best accomplished for the new employee by viewing this chapter and discussing the issue with the employee's supervisor.

3. General Precautions

- When you are outdoors, use insect repellents containing 20-30% DEET (N, N-diethyl-meta-toluamide) and follow the instructions on the package.
- Many mosquitos are most active at dusk and dawn, so try to avoid outdoor activities at those times or be sure to wear long sleeves and pants.
- Make sure you have good screens on windows and doors to keep mosquitos out.
- Dispose of tin cans, plastic containers, ceramic pots, old tires, or similar water holding containers, that are perfect breeding areas for mosquitos. Mosquitos will develop in any puddle or standing water that lasts for more than four days.
- Drill holes in the bottom of recycling containers that are left outdoors. These drainage holes will prevent water build-up for mosquito breeding grounds.
- Clean roof gutters: they are easily overlooked but can produce millions of mosquitos each season.
- Turn over wheelbarrows and do not allow water to stagnate in birdbaths, buckets or barrels.
- Avoid perfumes and colognes when outdoors for extended periods of time.
- Be aware of West Nile virus symptoms and seek medical attention if symptoms are observed.
- Get horses vaccinated.

4. Infected Animals

- Although a few animal species can be infected with WNV, horses are one of the most likely species to become ill from WNV. Horses may develop signs of encephalitis, such as a lack of coordination or muscle control, weakness of limbs, inability to rise, head pushing, and/or death. There are two vaccines available for horses, which provide reasonable protection against the virus. You can get more information about WNV in animals from the Department of Agriculture website at www.agri.nevada.gov/Animal_west_nile_virus.htm.

- Birds are also highly susceptible to infection. Some of the birds that might die from WNV include crows, ravens, blue jays, cardinals and birds of prey. These birds are highly sensitive to the virus, and can develop a severe encephalitis, which results in death. Contact the Department of Agriculture at (775) 688-1180, to report dead birds. You can get more information on submission of dead or sick birds from the Nevada Dept. of Agriculture website at www.agri.nevada.gov/Animal_west_nile_virus.htm.

West Nile Fact Sheet from the CDC

West Nile Virus (WNV) Fact Sheet

What Is West Nile Virus?

West Nile virus infection can cause serious disease. WNV is established as a seasonal epidemic in North America that flares up in the summer and continues into the fall. This fact sheet contains important information that can help you recognize and prevent West Nile virus.

What Can I Do to Prevent WNV?

The easiest and best way to avoid WNV is to prevent mosquito bites.

- When outdoors, use repellents containing DEET, picaridin, IR3535, some oil of lemon eucalyptus or para-menthane-diol. Follow the directions on the package.
- Many mosquitoes are most active from dusk to dawn. Be sure to use insect repellent and wear long sleeves and pants at these times or consider staying indoors during these hours.
- Make sure you have good screens on your windows and doors to keep mosquitoes out.
- Get rid of mosquito breeding sites by emptying standing water from flower pots, buckets and barrels. Change the water in pet dishes and replace the water in bird baths weekly. Drill holes in tire swings so water drains out. Keep children's wading pools empty and on their sides when they aren't being used.

What Are the Symptoms of WNV?

- **Serious Symptoms in a Few People.** About 1 in 150 people infected with WNV will develop severe illness. The severe symptoms can include high fever, headache, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, vision loss, numbness and paralysis. These symptoms may last several weeks, and neurological effects may be permanent.
- **Milder Symptoms in Some People.** Up to 20 percent of the people who become infected will have symptoms which can include fever, headache, body aches, nausea, vomiting, and sometimes swollen lymph glands or a skin rash on the chest, stomach and back. Symptoms can last for as short as a few days to as long as several weeks.
- **No Symptoms in Most People.** Approximately 80 percent of people who are infected with WNV will not show any symptoms at all, but there is no way to know in advance if you will develop an illness or not.

How Does West Nile Virus Spread?

- **Infected Mosquitoes.**
  WNV is spread by the bite of an infected mosquito. Mosquitoes become infected when they feed on infected birds. Infected mosquitoes can then spread WNV to humans and other animals when they bite.
- **Transfusions, Transplants, and Mother-to-Child.**
  In a very small number of cases, WNV also has been spread directly from an infected person through blood transfusions, organ transplants, breastfeeding and during pregnancy from mother to baby.
- **Not through touching.**
  WNV is not spread through casual contact such as touching or kissing a person with the virus.

How Soon Do Infected People Get Sick?

People typically develop symptoms between 3 and 14 days after they are bitten by the infected mosquito.

How Is WNV Infection Treated?

There is no specific treatment for WNV infection. In cases with milder symptoms, people experience symptoms such as fever and aches that pass on their own, although illness may last weeks to months. In more severe cases, people usually need to go to the hospital where they can receive supportive treatment including intravenous fluids, help with breathing, and nursing care.

What Should I Do if I Think I Have WNV?

Milder WNV illness improves on its own, and people do not need to seek medical attention for this infection though they may choose to do so. If you develop symptoms of severe WNV illness, such as unusually severe headaches or confusion, seek medical attention immediately. Severe WNV illness usually requires hospitalization. Pregnant women and nursing mothers are encouraged to talk to their doctor if they develop symptoms that could be WNV.

National Center for Emerging and Zoonotic Infectious Diseases
Division of Vector-Borne Diseases

CS243240-A

What Is the Risk of Getting Sick from WNV?

- **People over 50 at higher risk to get severe illness.** People over the age of 50 are more likely to develop serious symptoms of WNV if they do get sick and should take special care to avoid mosquito bites.
- **Being outside means you're at risk.** The more time you're outdoors, the more time you could be bitten by an infected mosquito. Pay attention to avoiding mosquito bites if you spend time outside, either working or playing.
- **Risk through medical procedures is very low.** All donated blood is checked for WNV before being used. The risk of getting WNV through blood transfusions and organ transplants is very small, and should not prevent people who need surgery from having it. If you have concerns, talk to your doctor.

What Is CDC Doing About WNV?

CDC is working with state and local health departments, the Food and Drug Administration and other government agencies, as well as private industry, to prepare for and prevent new cases of WNV.

Some things CDC is doing include:

- Coordinating a nation-wide electronic database where states share information about WNV
- Helping states develop and carry out improved mosquito prevention and control programs
- Developing better, faster tests to detect and diagnose WNV
- Creating new education tools and programs for the media, the public, and health professionals
- Working with partners to develop vaccines.

What Else Should I Know?

West Nile virus infects birds. In nature, West Nile virus cycles between mosquitoes and birds. Some infected birds can develop high levels of the virus in their bloodstream and mosquitoes can become infected by biting these infected birds. Some, but not all infected birds get sick and die of disease. One way health officials conduct surveillance for West Nile virus is by testing local birds. Finding dead birds may be a sign that West Nile virus is circulating between birds and the mosquitoes in an area. By reporting dead birds to state and local health departments, you can play an important role in monitoring West Nile virus. State and local agencies have different policies for collecting and testing birds, so check with your county or state health department to find information about reporting dead birds in your area.

If you find a dead bird: Don't handle the body with your bare hands. Contact your local health department for instructions on reporting and disposing of the body. They may tell you to dispose of the bird after they log your report.

For more information, visit www.cdc.gov/westnile, or call CDC at 800-CDC-INFO (English and Spanish) or 888-232-6348 (TTY).

D. Soil Fungus - Valley Fever (coccidiodomycosis)

1. Introduction

Valley fever is an infection caused by a fungus that lives in the soil and is found in the southwestern US, parts of Mexico and Central America, and parts of South America. People can get Valley Fever by breathing in the microscopic fungus from the air in these areas. Valley Fever does NOT spread from person to person.

2. Symptoms

Many people who are exposed to the fungus never have symptoms. Older adults, people with weakened immune systems, pregnant women, or people with certain auto-immune diseases such as rheumatoid arthritis or Crohn's disease, who are being treated with anti-tumor necrosis factor (TNF) drugs, have an increased risk of infection. Affected people may have flu-like symptoms including:

- Fatigue
- Cough
- Fever
- Shortness of breath
- Headache
- Night Sweats
- Muscles aches or joint pain
- Rash on upper body or legs

3. Precautions

Since Valley fever is often misdiagnosed, know the symptoms and tell health professionals that you may have been exposed.

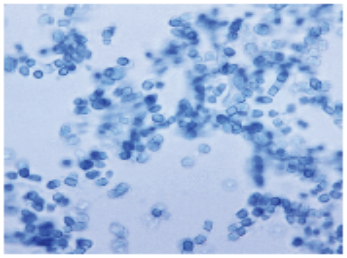
- Avoid digging, if possible
- Reduce grading
- Maintain vegetation
- Limit dust generation and exposure
- Wet the soil before and while digging
- Cover soil piles with vegetation, tarps, etc.
- Stay upwind of digging
- Protect operators with enclosed cabs and wet-clean inside cabs

Valley Fever Fact Sheet from CDC

Facts about Valley Fever

Valley fever, also called coccidioidomycosis, is an infection caused by the fungus *Coccidioides*. The fungus is known to live in the soil in the southwestern United States and parts of Mexico and Central and South America. The fungus has also been found in south-central Washington. People can get Valley fever by breathing in the microscopic fungal spores from the air in these areas.

Approximately 10,000 Valley fever cases are reported in the U.S. each year. Nearly 70% of reported cases are from Arizona and nearly 30% are from California.



Environmental form of *Coccidioides*, the fungus that causes Valley fever

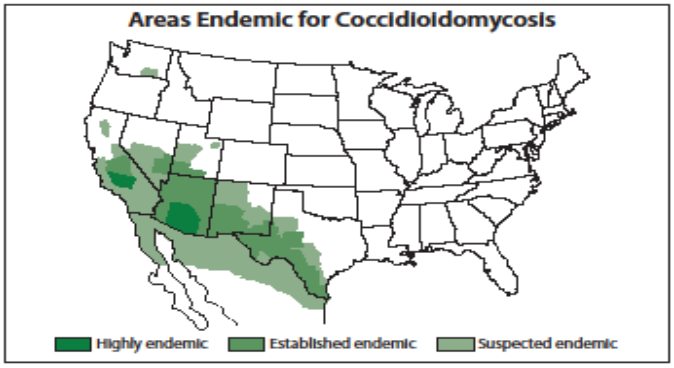
Symptoms

Most people (60%) who are exposed to the fungus *Coccidioides* never have symptoms. Other people may develop flu-like symptoms 1 to 3 weeks after exposure that go usually away on their own after weeks to months, including:

- Fatigue (extreme tiredness)
- Cough
- Fever
- Shortness of breath
- Headache
- Night sweats
- Muscle aches or joint pain
- Rash on upper body or legs

In extremely rare cases, the spores can enter the skin through a wound and cause a skin infection. Approximately 5 to 10% of people who get Valley fever will develop serious or long-term problems in their lungs. In an even smaller percent of people (about 1%), the infection spreads from the lungs to other parts of the body, such as the central nervous system (brain and spinal cord), skin, or bones and joints.

Cough and fever are common symptoms of Valley fever.



Approximate areas ("endemic areas") where *Coccidioides* is known to live or is suspected to live in the United States and Mexico.

Sources of infection

Valley fever does not spread from person to person. People and animals can get Valley fever by breathing in the fungal spores from the environment in certain areas of the western U.S. and parts of Mexico and Central and South America. The fungus was also recently found in south-central Washington.

National Center for Emerging and Zoonotic Infectious Diseases
Division of Foodborne, Waterborne, and Environmental Diseases

CS258788

People at risk

Anyone who lives in or travels to areas where *Coccidioides* is in the environment can get Valley fever. Valley fever can affect people of any age, but it's most common in adults aged 60 and older. Certain groups of people may be at higher risk for developing the severe forms of the infection, such as:

- People who have weakened immune systems, for example, people who:
  - Have HIV/AIDS
  - Have had an organ transplant
  - Are taking medications such as corticosteroids or TNF-inhibitors
- Pregnant women
- People who have diabetes
- People who are Black or Filipino

Diagnosis

Healthcare providers rely on your medical and travel history, symptoms, physical exams, and laboratory tests to diagnose Valley fever. The most common way that healthcare providers test for Valley fever is by taking a blood sample and sending it to a laboratory to look for *Coccidioides* antibodies or antigens. They might also collect a sputum sample and send it to a lab for examination. Healthcare providers may also do imaging tests such as chest x-rays or CT scans of your lungs.

Treatment

For many people, symptoms will go away without any treatment. Healthcare providers choose to prescribe antifungal medication for some people to try to reduce symptoms or prevent the infection from getting worse. The treatment is usually 3 to 6 months of fluconazole or another type of antifungal medication. People who have severe lung infections or infections that have spread to other parts of the body always need treatment and may need to stay in the hospital. For these types of infections, the course of treatment is usually longer than 6 months.

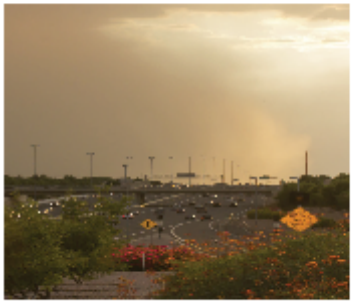
Some people with Valley fever will need prescription antifungal treatment.

Prevention

It's very difficult to avoid breathing in the fungus *Coccidioides* in areas where it's common in the environment.

People who are at risk for severe Valley fever may be able to lower their chances of developing the infection by trying to avoid breathing in the fungal spores. The following are some common-sense methods that may be helpful to avoid getting Valley fever, but it's important to know that they haven't been proven to prevent it.

- Try to avoid areas with a lot of dust like construction or excavation sites. If you can't avoid these areas, wear an N95 respirator (a type of face mask) while you're there.
- Stay inside during dust storms and close your windows.
- Avoid activities that involve close contact to dirt or dust, including yard work, gardening, and digging.
- Use air filtration measures indoors.



People can get Valley fever by breathing in the fungus *Coccidioides* from the environment.

For more information, please contact the Centers for Disease Control and Prevention (CDC),
National Center for Emerging and Zoonotic Infectious Diseases Division of Foodborne, Waterborne, and Environmental Diseases

1600 Clifton Road, NE, Mail Stop C-09, Atlanta, GA 30329-4018

Telephone: 800-CDC-INFO (232-4636) E-mail: cdcinfo@cdc.gov Web http://www.cdc.gov/fungal/

E. Rodents - Hantavirus Pulmonary Syndrome (HPS)

1. **Introduction -** HPS is a rare but severe disease characterized by flu-like symptoms that can progress rapidly to potentially life-threatening breathing problems. Several types of hantaviruses can cause hantavirus pulmonary syndrome. They are carried by several types of rodents, particularly the deer mouse. You become infected primarily by breathing air infected with hantaviruses that are shed in rodent urine and droppings, and less frequently by a bite from an infected host. The most important hantavirus in the United States that can cause HPS is the **Sin Nombre virus**, spread by the deer mouse. Other North American rodents that can transmit hantaviruses are the white-footed mouse, the rice rat, and the cotton rat. However, not every single one will carry a hantavirus.
2. **Symptoms -** Hantavirus pulmonary syndrome advances through two distinct stages. In the first stage, you may experience flu-like signs and symptoms that may include:

- Fever and chills
- Headaches and muscle aches
- Vomiting, diarrhea, or abdominal pain

In its early stages, hantavirus infection is difficult to distinguish from influenza, pneumonia or other viral conditions. After four to ten days, more-serious signs and symptoms begin. They typically include:

- A cough that produces secretions (phlegm)
- Shortness of breath
- Fluid accumulating within the lungs
- Low blood pressure
- Reduced heart efficiency

Facts About Hantaviruses

What You Need To Know To Prevent the Disease Hantavirus Pulmonary Syndrome (HPS)

DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention

Facts About Hantaviruses

What You Need To Know To Prevent the Disease Hantavirus Pulmonary Syndrome (HPS)

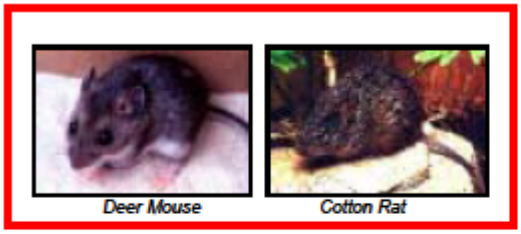
What are hantaviruses?

Hantaviruses are a group of viruses that may be carried by some rodents. Some hantaviruses can cause a rare but deadly disease called hantavirus pulmonary syndrome. The disease is called HPS for short.

What animals can give people hantaviruses?

Only some kinds of mice and rats can give people hantaviruses that can cause HPS. In North America, they are the deer mouse, the white-footed mouse, the rice rat, and the cotton rat. However, not every deer mouse, white-footed mouse, rice rat, or cotton rat carries a hantavirus. Other rodents, such as house mice, roof rats, and Norway rats, have never been known to give people HPS. Since it is hard to tell if a mouse or a rat carries a hantavirus, it is best to avoid all wild mice and rats and to safely clean up any rodent urine, droppings, or nests in your home. Dogs and cats cannot give people hantavirus infections.

These are some of the mice and rats that can carry hantaviruses in the United States



Deer Mouse | Cotton Rat

Who can get HPS?

Any man, woman, or child who is around mice or rats that carry harmful hantaviruses can get HPS. You do not have to already be sick to be at risk for HPS. Healthy people have become ill with HPS.

While HPS is a very rare disease, cases have occurred in all regions of the United States except for Alaska and Hawaii.

How do people get HPS?

People get HPS when they breath in hantaviruses. This can happen when rodent urine and droppings that contain a hantavirus are stirred up into the air. People can also become infected when they touch mouse or rat urine, droppings, or nesting materials that contain the virus and then touch their eyes, nose, or mouth. They can also get HPS from a mouse or rat bite.

Fever, fatigue, and muscle aches are the first symptoms of HPS

Here are some activities that can put people at risk for HPS:

- Improperly cleaning up mouse and rat urine, droppings, and nests.
- Cleaning a shed or cabin that has been closed for some time.
- Working in areas where mice and rats may live (such as barns).

In the United States, there has never been a case in which a person with HPS has given the disease to another person.

What are the symptoms of HPS?

If people get HPS, they will feel sick 1 to 5 weeks after they were around mice or rats that carried a hantavirus.

At first people with HPS will have:

- Fever
- Severe muscle aches
- Fatigue

After a few days they will have a hard time breathing. Sometimes people will have headaches, dizziness, chills, nausea, vomiting, diarrhea, and stomach pain. Usually, people do not have a runny nose, sore throat, or a rash.

How can HPS be prevented?

- Keep mice and rats out of your home.
- Clean up mouse and rat urine, droppings, and nesting materials with a disinfectant or a mixture of bleach and water.

How To Clean Up After Mice and Rats

How to clean up mouse and rat urine and droppings:

- Wear rubber or plastic gloves.
- Spray urine and droppings with a disinfectant or a mixture of bleach and water. Make sure you get the urine and droppings very wet. Let it soak for 5 minutes.
- Use a paper towel to wipe up the urine or droppings.
- Throw the paper towel in the garbage.
- Mop or sponge the area with a disinfectant or bleach solution.
- Wash gloved hands with soap and water or spray a disinfectant or bleach solution on gloves before taking them off.
- Wash hands with soap and warm water after taking off your gloves.

Spray disinfectant

Clean-up tip:

Do not sweep or vacuum up mouse or rat urine, droppings, or nests. This will cause virus particles to go into the air, where they can be breathed in.

Bleach and water solution

Use either of these when cleaning up after mice and rats:

- General-purpose household disinfectant. Make sure the word "disinfectant" is written on the label.

OR

- Bleach and water solution. Mix 1 ½ cups of household bleach with 1 gallon of water. Smaller amounts can be made with 1 part bleach and 9 parts water.

How to clean up a dead mouse or rat in a snap trap and how to clean up a rodent nest:

- Wear rubber or plastic gloves.
- Spray the dead mouse, rat, or nest, as well as the surrounding area, with a disinfectant or a mixture of bleach and water. Let it soak.
- Place nesting materials or trap with the dead rodent in a plastic bag. If you plan to reuse the trap, get the mouse or rat out of the trap by holding it over the bag and lifting the metal bar. Let the mouse or rat drop in the bag. Disinfect the trap.
- Seal the bag. Place the full bag in a second plastic bag. Seal that bag.
- Throw the bag into a covered trash can that is regularly emptied or contact your state health department for information on other ways to throw away dead mice and rats.
- Wash gloved hands with soap and water or spray a disinfectant or bleach solution on gloves before taking them off.
- Wash hands with soap and warm water after removing your gloves.

Nesting Materials:

Some materials mice and rats use to build their nests include paper, tissues, insulation, and the stuffing from furniture.

Spray gloves before taking them off

Important:

If you live in the western United States, you may be at risk for plague carried by fleas from rodents. Use insect repellent (containing DEET) on clothing, shoes, and hands to reduce the risk of flea-bites while picking up dead rodents. Contact your local or state health department to find out if plague is a danger in your area and for more information on other flea-control methods.

How to clean out cabins, sheds, barns, or other outbuildings:

- Open all doors and windows. Leave them open for 30 minutes before cleaning.
- Wear rubber or plastic gloves.
- Clean up all rodent urine, droppings, nests, or dead mice or rats by using a disinfectant or a mixture of bleach and water.
- Mop floors or spray dirt floors with a disinfectant or mixture of bleach and water.

Air out cabins

Mop floors

- Clean countertops, cabinets, and drawers with a disinfectant or a mixture of bleach and water.
- Steam clean, shampoo, or spray upholstered furniture with a detergent, disinfectant, or a mixture of bleach and water.

- Wash any bedding and clothing with laundry detergent in hot water if you see any mouse or rat urine or droppings on them.

Wash clothes and bedding with detergent in hot water

How to Keep Mice and Rats Out of Your Home

Why keep mice and rats out of your home?

Some mice and rats can carry harmful diseases, such as HPS, Leptospirosis, lymphocytic choriomeningitis, plague, and typhus. The best way to protect you and your family from these diseases is to keep mice and rats out of your home.

What you can do inside your home:

- Keep food in thick plastic or metal containers with tight lids.
- Clean up spilled food right away. Wash dishes and cooking utensils soon after use.
- Put pet food away after use. Do not leave pet-food or water bowls out overnight.
- Keep garbage in thick plastic or metal containers with tight lids.

Store food in containers with lids.

Look for holes.

- Inside your home, use snap traps baited with peanut butter.
- Check inside your house for gaps or holes that a pencil can fit into. Seal them with steel wool, lath metal, and caulk.

Use peanut butter on traps.

What you can do outside your home:

- Use a thick plastic or metal garbage can with a tight lid. Make sure there are no holes in the garbage can.
- Clean up trash, brush, and weeds around your home.
- Check the outside of your house for gaps and holes. Seal them with cement, lath metal, hardware cloth or sheet metal.
- Put away pet food after use.
- Keep grains and animal feed in thick plastic or metal containers with tight lids.

Use a trash can with a tight lid

Keep animal feed in a container with a tight lid

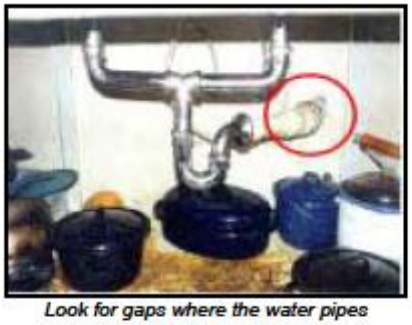
- Get rid of old trucks, cars, and old tires. Mice and rats may use these as homes.
- Keep grass and shrubbery within 100 feet of the home well trimmed.
- Move woodpiles 100 feet or more from the house. Raise the wood at least 1 foot off of the ground.
- Use traps in areas outside your home where you think mice and rats live.

- Fix gaps in trailer skirtings.
- Keep composting bins 100 feet or more from the house.

Fix gaps in trailer skirtings

Where to look for gaps or holes inside your home:

- Inside, under, and behind kitchen cabinets.
- Inside closets near the floor corners.
- Around the fireplace.
- Around doors.
- Around the pipes under sinks and washing machines.
- Around the pipes and going to hot water heaters and furnaces.
- Around floor vents and dryer vents.
- Inside the attic.
- In the basement or crawl space.



Look for gaps where the water pipes come into your home

Where to look for gaps and holes outside your home:

- In the room among the rafters, gables, and eaves.
- Around windows.
- Around doors.
- Between the foundation of your house and the ground.
- Attic vents and crawl space vents.
- Under doors.
- Around holes for electrical, plumbing, and gas lines.

Look for gaps around pipes outside your home

How to seal gaps and holes inside and outside your house:

- Fill small holes with steel wool. Put caulk around steel wool to keep it in place.
- Use lath screen or lath metal, cement, hardware cloth, or metal sheeting to fix large holes. Lath screen can be folded and pushed into holes. It can also be cut to fit around pipes. This material can be **found in the masonry or building materials section at a hardware store.**

Seal holes with caulk

Fold lath metal and place in holes in the foundation of houses

Use lath metal around pipes

F. Bird or Bat Droppings – Histoplasmosis

1. Introduction - Histoplasmosis is an infection caused by breathing in spores of a fungus often found in bird and bat droppings. Histoplasmosis is most commonly transmitted when these spores become airborne, often during cleanup or demolition projects.

2. Symptoms - Several types of histoplasmosis exist. The mildest form produces no signs or symptoms, but severe infections can be life-threatening. When signs and symptoms do occur, they usually appear three to 17 days after exposure and may include:

- Fever or chills
- Headache and/or muscle aches
- Dry cough
- Chest discomfort

3. Precautions

- **Avoid exposure.** Deter birds from nesting and perching on park buildings or structures.
- **Spray contaminated surfaces.** Before you dig in soil or work in an area that could harbor the fungus that causes histoplasmosis, spray it thoroughly with water. This can help prevent spores from being released into the air. Spraying droppings and barns before cleaning them also helps decrease your risk.
- **For more information, go to CDC website: https://www.cdc.gov/fungal/diseases/histoplasmosis/index.html**

Histoplasmosis Fact Sheet

HISTOPLASMOSIS

What is histoplasmosis?

Histoplasmosis is an infectious disease caused by inhaling spores of a fungus called *Histoplasma capsulatum*. Histoplasmosis is not contagious; it cannot be transmitted from an infected person or animal to someone else.

What are the symptoms of histoplasmosis?

Histoplasmosis primarily affects a person's lungs, and its symptoms vary greatly. The vast majority of infected people are asymptomatic (have no apparent ill effects) or they experience symptoms so mild they do not seek medical attention. If symptoms do occur, they will usually start within 3 to 17 days after exposure, with an average of 10 days. Histoplasmosis can appear as a mild, flu-like respiratory illness and has a combination of symptoms, including malaise (a general ill feeling), fever, chest pain, dry or nonproductive cough, headache, loss of appetite, shortness of breath, joint and muscle pains, chills, and hoarseness. A chest X-ray of a person with acute pulmonary histoplamosis will commonly show a patchy pneumonitis, which eventually calcifies. Chronic lung disease due to histoplasmosis resembles tuberculosis and can worsen over months or years. The most severe and rare form of this disease is disseminated histoplasmosis, which involves spreading of the fungus to other organs outside the lungs.

Who can get histoplasmosis?

Anyone working at a job or present near activities where material contaminated with *H. capsulatum* becomes airborne can develop histoplasmosis if enough spores are inhaled. After an exposure, how ill a person becomes varies greatly and most likely depends on the number of spores inhaled and a person's age and susceptibility to the disease. The number of inhaled spores needed to cause disease is unknown. Children younger than 2 years of age, persons with compromised immune systems, and older persons, in particular those with underlying illnesses such as diabetes and chronic lung disease, are at increased risk for developing symptomatic histoplasmosis.

People with weakened immune systems are at greatest risk for developing severe and disseminated histoplasmosis. Included in this high-risk group are persons with AIDS or cancer and persons receiving cancer chemotherapy; high-dose, long-term steroid therapy; or other immuno-suppressive drugs.

Before 2000, a person could learn from a histoplasmin skin test whether he or she had been previously infected by *H. capsulatum*. However, the manufacturing of histoplasmin was discontinued in 2000, and the skin testing reagents were still unavailable in 2004. A previous infection can provide partial immunity to reinfection. Since a positive skin test does not mean that a person is completely immune to reinfection, appropriate exposure precautions should be taken regardless of a worker's past skin-test status whenever disturbances of materials that might be contaminated with *H. capsulatum* occur.

What is the treatment for histoplasmosis?

Mild cases of histoplasmosis are usually resolved without treatment. For severe cases, special antifungal medications are needed to arrest the disease. Disseminated histoplasmosis is fatal if untreated, but death can also occur in some patients even when medical treatment is received.

Where are H. capsulatum spores found?

H. capsulatum grows in soils throughout the world. In the United States, the fungus is endemic (more prevalent) and the proportion of people infected by *H. capsulatum* is higher in central and eastern states, especially along the Ohio and Mississippi River valleys. The fungus seems to grow best in soils having a high nitrogen content, especially

those enriched with bat droppings or bird manure. Disturbances of contaminated material cause small *H. capsulatum* spores to become airborne or aerosolized. Once airborne, spores can easily be carried by wind currents over long distances.

How can someone know if soil or droppings are contaminated with H. capsulatum spores?

To learn whether soil or droppings are contaminated with *H. capsulatum* spores, samples must be collected and cultured. Presently, the method used to isolate *H. capsulatum* is expensive and requires several weeks to complete. If not enough samples are collected, small but highly contaminated areas can be overlooked. Until a less expensive and more rapid method is available, testing samples for *H. capsulatum* will continue to be impractical for most situations. Consequently, when thorough testing is not done, the safest approach is to assume soil in endemic regions and any accumulations of bat droppings or bird manure are contaminated with *H. capsulatum* and take appropriate exposure precautions.

What jobs and activities have risks for exposure to H. capsulatum spores?

Below is a partial list of occupations and hobbies with risks for exposure to *H. capsulatum* spores. Appropriate exposure precautions should be taken by these people and others whenever contaminated soil, bat droppings, or bird manure is disturbed.

- Bridge inspector or painter
- Chimney cleaner
- Construction worker
- Demolition worker
- Farmer
- Gardener
- Heating and air-conditioning system installer or service person
- Microbiology laboratory worker
- Pest control worker
- Restorer of historic or abandoned buildings
- Roofer
- Spelunker (cave explorer)

How can exposure to H. capsulatum be controlled and histoplasmosis prevented?

The best way to prevent exposures to *H. capsulatum* spores is to avoid situations where material that might be contaminated can become aerosolized and subsequently inhaled. This is especially important for persons with weakened immune systems.

Dust suppression methods, such as carefully wetting with a water spray, may be useful for reducing the amount of material aerosolized during an activity. For some activities, such as removing an accumulation of bat droppings or bird manure from an enclosed place such as an attic, wearing a NIOSH-approved respirator and other items of personal protective equipment may be needed to further reduce the risk of *H. capsulatum* exposure. However, only persons trained in the proper selection and use of personal protective equipment should undertake work where this equipment is needed

Disinfectants have occasionally been used to treat soil and accumulated bat manure when removal was impractical or as a precaution before a removal process was started. There is no product or chemical that is registered by the EPA that has the specific claim of being effective against *H. capsulatum*. A manufacturer of a product claiming to disinfect soil contaminated with *H. capsulatum* will have to meet the EPA's regulatory requirements and complete the registration process.

Where can I get more information about histoplasmosis?

This histoplasmosis fact sheet was prepared by the National Institute for Occupational Safety and Health (NIOSH) and the National Center for Infectious Diseases (NCID), both of the Centers for Disease Control and Prevention. For answers to other questions about histoplasmosis or histoplasmin skin-testing, please contact your physician, your local health department, or NCID in Atlanta, Georgia. NCID's Internet address is http://www.cdc.gov/ncidod/. For other questions about worker health and safety precautions during disturbances of soil, bat droppings, or bird manure that might be contaminated with *H. capsulatum* spores, call NIOSH in Cincinnati, Ohio, at (800) 356-4674.

2004

G. Snakes

There are many snakes in Nevada, but only 5 species are venomous and all 5 are part of the rattlesnake family. Most snakes will avoid human contact if they can, but if startled or stepped on, snakes may strike without warning.

Goals for defenses against snake bites:

- Avoid working alone in isolated areas where snakes are generally found.
- When it is necessary to be alone in such areas, notify your supervisor or a co-worker of where you will be and when you will return.
- Wear boots, at least eight inches high, and leather gauntlet gloves. Most rattlesnake bites are either on the hand or wrist, or ankle-high on the leg.
- Watch carefully where you are stepping. Move slowly enough to give snakes a chance to escape.
- Use a bar or stick for moving rocks, materials or debris.
- Use a litter stick for removing refuse from the ground in areas known to have rattle-snakes.
- Portable park radios should be made available for crews.
- Remove constrictive jewelry and clothing. Keep the subject calm and seek medical attention/poison control.

H. Bears and Mountain Lions

Bears - Living in bear country requires that residents and visitors take extra precautions and be BEAR AWARE. Bears will rummage through garbage cans or forage on fruit trees and constitute a nuisance and may frighten the public. Although black bears rarely attack, they are very powerful animals and are capable of injuring or killing humans.

Never attempt to feed or approach a bear! Give it plenty of room to pass by and it usually will. No fatal bear attacks have been reported in Nevada. However, predatory black bear attacks seem to be increasing within their North American range. While working in bear country, make plenty of noise to avoid a surprise encounter.

If a bear approaches you – Don't run! Remain facing the bear and make yourself look bigger by waving your arms and yelling. You should back away slowly, keeping the bear in sight. Make noise and show the bear it is unwelcome. If there are children in the area, pick them up or put

them on your shoulders. Remember, you can't outrun a black bear! They are extremely fast, running uphill, downhill, or any other direction they decide to go.

Warning signs of an attack include: a steady glare; ears laid back; smacking of the jaws and stomping of the front feet. If the bear attacks, fight back with anything available. Throwing rocks or hitting a bear with a large stick has been effective in some cases. **Carry bear spray or pepper spray and know how to use it.**

Mountain Lions - People rarely get more than a brief glimpse of a mountain lion in the wild. Lion attacks on people are rare, with fewer than a dozen fatalities in North America in more than 100 years. Most of the attacks were by young lions, perhaps forced out to hunt on their own and not yet living in established areas. Young lions may focus on easy prey, like pets and small children.

No studies have been done to learn what to do if you meet a lion. But based on observations by people who have come upon lions, some patterns of behavior and response are beginning to emerge. Therefore, the following suggestions may be helpful. Remember: Every situation is different with respect to the lion, the terrain, the people, and their activity.

- When you walk or hike in mountain lion country, make plenty of noise to reduce your chances of surprising a lion. A sturdy walking stick is a good idea, it can be used to ward off a lion. Make sure children are close by and within sight at all times.

- DO NOT APPROACH A LION, especially one that is feeding or with kittens. Most mountain lions will try to avoid a confrontation. Give them a way to escape.

- STAY CALM when you come upon a lion. Talk calmly, yet firmly to it. Move slowly.

- STOP OR BACK AWAY SLOWLY, if you can do it safely. Running may stimulate a lion's instinct to chase and attack. Face the lion and stand upright.

- DO ALL YOU CAN TO APPEAR LARGER! Raise your arms. Open your jacket if you're wearing one. If there are small children with you, protect them by picking them up, so they don't panic and run.

- If the lion behaves aggressively, THROW STONES, BRANCHES, OR ANYTHING ELSE you can get your hands on, without crouching down or turning your back. Wave your arms slowly and speak firmly. What you want to do is convince the lion you are not prey and that you may be a danger to the lion.

- FIGHT BACK if a lion attacks you. Lions have been driven away by prey that fights back. People have fought back with rocks, sticks, caps or jackets, work tools and their bare hands successfully. Remain standing or try to get back up!

I. Rabies and Rabid Animals

Rabies, usually associated with "mad dog" scares, has now had more cases confirmed in wild creatures than in domestic animals. Wild animals most commonly affected are foxes, squirrels, chipmunks, raccoons, bats and skunks. The bite of a rabid animal may not cause rabies in a victim, **but if symptoms do appear**, the disease is often fatal in humans.

In case of an animal bite, rabies can be prevented by prompt immunization. This procedure is unpleasant, so it is best to decide first whether the animal is infected. The animal should not be killed unless it is essential to protect others from being bitten. It should be confined and observed at a veterinarian's office or animal shelter. Only in this way can the presence of rabies in the animal be accurately determined.

It pays to know the symptoms of rabies in animals. Abnormal behavior in domestic and wild animals is one outward sign. Wild animals are normally shy of man. Look with suspicion on skunks, foxes, or bats you see around developed areas in the daytime. The procedure for handling animal bite emergencies is described in the final chapter on **Emergency Procedures**.

VII. Rough Terrain

Rough terrain poses many hazards to people, whether on foot or in vehicles. Certain precautions may prevent or lessen an injury:

- Select clothing and non-skid, laced boots suited to the country, climate and job.
- Avoid traveling or working alone in isolated areas when practical. Notify someone of your work location and schedule before leaving for isolated areas. Such itinerary should include destination, route of travel, and time of expected return.
- If a fellow worker does not return on schedule, start a search within a reasonable period of time.
- Be sure of secure footing and safe working positions.
- Always be on guard against injury from falling trees, snags, limbs, rolling logs or rocks. Don't run blindly if you hear a rolling rock or a falling tree. Decide the direction of the fall first, then get out of the path.
- Wear safety glasses in brushy country for eye protection.
- Watch your step. Rocky slopes, especially slick rock and steep country are treacherous. Have one hand free, preferably on the uphill side, to break falls.

- Walk down slopes; don't run. Keep your eyes on where you are stepping!

IV. Aquatic Areas

Within the State Park system, there are a variety of aquatic areas, including lakes, streams, ponds, pools and beaches. Each of these water areas has its own characteristic job and public safety hazards. Employees should become familiar with those in their area and the hazards they present, and training by supervisors should thoroughly orient new employees to the specific procedures for handling emergencies.

PUBLIC SAFETY

I. **General**

Public safety is an integral part of the Division's mission to provide quality and economical park and recreation services and facilities. The public has a right to expect parks to be operated and maintained safely.

II. **Responsibility for Public Safety**

The responsibility for public safety at Division facilities falls on both the Operation and Maintenance Section as well as the Planning and Development Section, because it requires intelligent design and construction, conscientious maintenance, thoughtful development and enforcement of rules and regulations, efficient operations, and education of park personnel and public alike. The Planning Section is primarily responsible to see that new facilities and recreation areas are designed to be safe and aesthetically pleasing.

Plans and designs for new facilities will be reviewed by the Regional Manager, Park Supervisor and respective Safety Officer. Every effort will be made to seek out information concerning safety considerations from all concerned departments.

Personnel handling maintenance projects and routines must make public safety part of their program, including:

- Grounds must be properly maintained. Park areas should be free of abandoned wells, excavations, and other man-made hazards. Litter should be picked up regularly, for appearance and safety.

- Equipment must be operated with the greatest caution in areas used by park and recreation patrons. Mowing, for example, should be done at times of low public use. Maintenance equipment should not be left where children may play on or near it. Accidents occur when machinery is left unattended.

- Building maintenance may offer a great variety of safety hazards to park patrons. Playing children, distracted adults (talking on the phone, taking pictures etc.), tools, ladders, or mop buckets left on the floor, all present unnecessary risks. Personnel charged with the maintenance of buildings must make regular, frequent inspections, in order to locate hazards and make needed repairs promptly.

III. **Training**

The responsibility for educating staff in public safety falls on each supervisor involved. Instruction and training in public safety shall be a part of in-service training programs, both local and division wide. Training in emergency procedures shall be required of permanent employees. Information and rule signs shall be kept in key locations and in good condition.

Training sessions for seasonal employees ("seasonals") and new permanent staff, at the onset of their employment, will include:

- Division policies for public safety.
- Procedures for conducting maintenance checks.
- Safety considerations while conducting special programs and interpretive activities.
- Enforcement of park regulations, and their role in law enforcement.
- Emergency procedures.
- Accident reporting procedures.
- Liability considerations.

FIRE PREVENTION

I. General

The supervisor is primarily responsible for fire protection in his/her work area. The supervisor will prepare a written fire protection plan for his/her work area(s) that includes: provision for regular training sessions, regular fire safety inspections, upkeep of fire-fighting equipment, site specific evacuation plans, the storage of flammable materials, and training.

Following adequate training, all personnel shall know and understand the fire protection plan for their area, including the fire safety inspection, location and proper use of fire extinguishers, proper storage and handling of flammables, and evacuation plans.

II. Office, Shop and Storage Facilities

All structures and storage facilities shall be designed, constructed and maintained according to federal, state and local fire codes as applicable.

The following are minimum fire safety practices required for State Park employees:

A. Doors - Corridor doors may remain open while a room is occupied if there is an operations plan posted. Each employee must also be instructed to close all such doors in case of a fire or other disaster.

B. Combustible Materials must be stored at least 18 inches below sprinkler heads and 22 inches from any incandescent bulbs.

C. Extension Cords - The use of extension cords in the offices is prohibited. Power strips with built-in circuit breakers are permitted, except items noted in “D” below. Power strips must have a breaker rated for the total electrical load of appliances connected to it.

D. Small Appliances - Coffee pots, space heaters, cup warmers or other objects that generate heat or produce radiant heat must be plugged directly into a permanently wired outlet and designated for commercial use.

III. Special Fire Safety Rules

- Provide facilities for the storage of flammables and combustible liquids at all installations (preferably in a separate building). These facilities must meet the requirements of the National Board of Fire Underwriters.

- Post **"NO SMOKING"** signs on the inside and outside all buildings and locations where flammables and combustible liquids are stored.

- Smoking, open flames, or sparks shall not be permitted within 50 feet of where flammables are stored or used.

- Safety containers containing flammables or combustibles should be labeled to show contents. These safety containers must be tightly shut when not in use.

- When filling containers, make sure containers are bonded and to leave a vapor space above the liquid level to permit expansion with rising temperatures.

- Do not allow smoking, open flame, or sparks, when checking or charging wet-cell batteries.

- No one shall work in clothing soaked in flammables.

- Keep flammable and combustible liquids stored properly per federal, state, and local regulations.

- Never store or transport flammables with flash points below 100°F in plastic or glass containers. Gasoline (flash point - 45°F.) may be stored only in approved safety cans.

- Always maintain **CLEAR SPACES** and **READY ACCESS** to fire extinguishing equipment, hydrants and electrical panels.

- Immediately report any oil, gas, vapor leaks, or other fire hazards you may observe, to your supervisor. Oil or gas spills should be cleaned up immediately.

IV. **Equipment – Monthly Inspection of Fire Extinguishers**

The Monthly Safety Equipment Inspection (Sfy-16) form will be used to do a monthly inspection of all fire extinguishers. The monthly forms should be made available to the Fire Marshal when they do an inspection of the fire extinguishers. Disposition of these forms must be kept until you have been inspected by the Fire marshal, and then kept in record retention for one year thereafter.

GUIDELINES FOR HANDLING EMERGENCY SITUATIONS WITH PARK VISITORS

I. General

When accidents occur, they frequently create **emergency situations** that demand immediate and competent action to prevent further injury or damage. Because these emergencies put us in the public view and under pressure, it is necessary to learn: TO BE PREPARED, TO KNOW WHAT TO DO, and TO BE CALM AND CONFIDENT.

Among the emergency situations that frequently arise in the Parks are motor vehicle accidents, road hazards, fires, boating accidents, drownings, fights, crimes and offenses, lost persons, icy roads, and persons under the influence of drugs or alcohol.

Effective handling of these emergencies requires training for all employees. Unit Supervisors are responsible to properly train employees on emergency situations that they may encounter, based on work duties.

II. Emergency Visitor First Aid -

Commissioned State Park personnel are required to be trained and certified in First Aid/CPR. It is recommended that at least one or more employees are trained and certified in First Aid/CPR at each work location unless there is reasonable proximity to an infirmary, clinic or hospital. OSHA defines reasonable proximity as within 5 minutes.

When life-threatening conditions have been controlled and medical assistance summoned, if possible, get information about the injuries and the victim, and then pass it on to first responders. Here is some information that might be urgently needed:

- Victim's name, age, address, telephone.
- What relatives are nearby?
- Who witnessed the accident?
- What exactly happened?
- Known allergies?
- If unconscious, how long has the victim been unconscious?

A victim **may** be transported to the nearest source of medical assistance in a Division vehicle in **life-threatening emergencies** only where other means of transportation would be long-delayed or unavailable.

III. Motor Vehicle Accidents

Report all motor vehicle accidents occurring within a State Park to a Commissioned State Park Peace Officer. When the accident is outside the parks jurisdiction, the proper local police agency will be notified. In all incidents, park employees will respond with medical assistance. Follow these principles at the scene of a motor vehicle accident:

- Auto accident victims more often than not receive multiple injuries. These injuries commonly involve the head, neck, chest, spine and abdomen. Serious conditions can be missed in the hurry and excitement caused by the profuse bleeding of even minor cuts, especially of the scalp. IT IS EXTREMELY IMPORTANT TO REMEMBER WHEN HANDLING AN AUTO ACCIDENT VICTIM, PRACTICALLY ANY COMBINATION OF INJURIES MAY HAVE OCCURRED.
- DO NOT MOVE THE VICTIMS EXCEPT TO REMOVE THEM FROM A LIFE-THREATENING SITUATION.
- Undertake lifesaving measures immediately before removing a victim if properly trained and certified. Never attempt to right an overturned car.
- Set up, or delegate someone else to establish traffic control using flares, cones, or barricades. CAUTION: When private citizens are enlisted for emergency assistance, their safety is of the utmost importance. When using flares, DO NOT place them in areas where gasoline has leaked out.
- Do not transport seriously injured victims or rush them to the hospital in private vehicles. Keep them lying down and still and monitor them closely until medical help arrives.

- Protect the accident scene. Keep other bystanders out of the way. Don't move vehicles or equipment unless it is necessary for safety reasons.
- Ask witnesses and persons involved in the accident to remain at the scene. If witnesses insist on leaving, try to get their names, addresses and telephone numbers.

IV. Lost Persons

When a person is reported missing, it is an emergency or potential emergency. If a child is missing near an aquatic area, this is an emergency. When a person is reported missing, get the following information from the person reporting, preferably **ON PAPER**:

- Name.
- Age.
- Description.
- Where were they last seen?
- What were they last seen doing?

Next, recruit people to help in the search and in communications. **Have someone notify a Park Ranger.** Organize and conduct an immediate search of especially hazardous areas. Immediate action is imperative where a body of water, mines, or cliffs are involved, and organization is vital, under your competent leadership. The Park Ranger will take charge of the search when arriving on the scene.

Be prepared to provide comfort and treatment for shock if your search party finds the lost person. If your search fails, be prepared to give details and search information to follow-up rescue teams.

V. Animal Bites

Rabies, Tetanus - All animal bites should be treated as potentially dangerous because of the possibility of infection, tetanus, or rabies. Dog bites, or the bites of wild, warm-blooded animals such as squirrels, bats, raccoons, skunks or foxes, shall be treated as emergencies. Follow these guidelines:

- Calm the victim(s) and their companions.
- Administer emergency first aid if required and employee is properly trained.
- If possible, capture the animal without killing it, and without damaging its brain - if this can be safely done. Otherwise, call Animal Control (if there is one designated) and wait for their assistance.
- If the animal cannot be safely captured or contained, get an accurate description of the animal and where and when it was last seen, as well as any strange behavior you observed in the animal.
- Notify a Park Ranger or local Animal Control Officer and give the following information:
    - Your name and title.

- The nature of the injury.
- The name and age of the victim.
- Description of the animal.
- Where and when last seen.

- Obtain the names and addresses of companions and witnesses who cannot stay at the scene until a ranger arrives.
- Advise the victim(s) and their companions of the need for prompt medical attention.

VI. Crime and Offenses

For a crime or offense in progress, take whatever measures are required to prevent further injury or damage, **BUT DO NOT UNDULY ENDANGER YOUR OWN SAFETY**. Generally you should:

- Contact Law Enforcement.
- Protect the crime scene if safe to do so. Stay out of the area and keep other people away, so that evidence is not destroyed.
- Ask witnesses to wait at the scene until a Ranger arrives.
- Note and write down any description of suspects or vehicles that may be involved, including license plate numbers.
- If a citizen reports a crime to you and cannot wait for a Ranger, be sure to obtain his name, address and telephone number for later contact.

EMERGENCY RESPONSE PLANS AND PROCEDURES

I. Emergency Preparedness

Recognizing the potential of fire or other natural hazards such as flood or earthquake, an evacuation plan will be prepared for each work area and posted in strategic locations throughout the facility. After evacuation, employees are required to congregate in specified locations (muster points) outside the facility to account for personnel.

- Familiarize yourself with primary and secondary evacuation routes in the building.
- Familiarize yourself with the specified muster point, where you are to report after emergency evacuation.
- Upon notification of an evacuation, participate actively in notifying others in your work area to evacuate. However, **DO NOT** expose yourself to dangers such as excessive smoke in a fire situation.
- Do not leave your designated assembly area until granted permission by your supervisor or the person in charge of the scene.
- Supervisors are responsible for assuring that each of their employees are familiar with evacuation plans.

II. Emergency Evacuation Plan

Emergency procedures will vary according to work locations, available communications, available personnel, extent of training, equipment on hand, etc. For this reason, it is essential each work group create site specific emergency plans.

III. Emergency Preparedness Roles and Responsibly

A. Unit Supervisors (Regional Managers, Park Supervisors, etc.) - Supervisors are responsible for seeing that their employees are trained to respond effectively to emergencies for the roles they are expected to fill and that annual drills are being conducted. Supervisors are also responsible for ensuring all available supplies and equipment that might be necessary in an emergency are kept in a ready condition. This includes fire tools, flares, traffic vests, first aid kits, night lights, etc.

In an emergency, the Unit Supervisor roles will include:

- **Call the Local Emergency Services** - The emergency number must be readily available. Usually the number will be 9-1-1, but this must be verified.
- **Notifying the employees and other tenants** to evacuate the building or area, by telephone, intercom, runner, or other method as needed.
- **Evacuating Disabled Employees or Visitors** to the facility.
- **Meeting the Emergency Personnel** on site to rely information and coordinate emergency response.
- **Verifying employees have evacuated** and are accounted for, and if not accounted for, notifying emergency personnel of missing employee(s).

B. Employees - In emergency situations, all personnel are expected to conduct themselves according to the standards of the training they've received. High standards can be met only by personnel who are prepared, know what to do, and remain calm. Training is the key.

- Those who observe emergency hazards in their facilities must report them to their supervisor promptly.
- Each person must be knowledgeable of the safest and quickest escape routes.
- Employees must be knowledgeable of the location and use of fire extinguishers. Use of fire extinguishers must be by trained employees only.
- Employees must be responsible for helping other employees, as well as the public, who need assistance to evacuate the facility, especially the disabled. The exception from this rule is if it would put the employee at more risk of harm.

IV. Fire Evacuation

Fire drills will be practiced at least annually, or upon hire of new employees.

The First Person who discovers the fire must:

- Use the fire extinguisher, if possible and trained.
- Activate the alarm signal.
- Notify the unit supervisor and/or call the fire department if the supervisor is unable or unavailable.

Supervisors will initiate the following:

- Direct Employees to stop work, shut all windows and doors, assign employees to help disabled employees and evacuate the facility.
- Evacuate - Check to make sure that all persons have vacated the area, all windows and doors are shut, and all vital information or valuables have been secured but keeping in mind not to put yourself in harm's way.
- Exit the building through the designated route and go to the assigned muster point outside.
- Check the roster and account for all personnel.
- Report any missing personnel to the first responders and/or the unit supervisor.

All Employees

- Upon hearing fire alarm, stop working.
- Follow site specific evacuation procedures.
- Go to the predesignated muster point area for personnel check.
- Remain in the assigned area until told to leave.

V. Earthquake

A. During an Earthquake

- Keep calm. Do not run or panic. If you take the proper precautions, you will probably not be hurt. Stay where you are. If outdoors, stay there. If indoors, stay indoors. Most injuries occur when people are entering or leaving a building.
- If the earthquake strikes when you are indoors, take cover under a desk, table, bench or against inside walls or doorways. Avoid glass, windows and outside doors.
- Do not use candles, matches or other open flames either during or after a tremor. Extinguish all fires or smoking material. This is in case a gas line was broken during the earthquake.
- If the earthquake catches you outside, move away from any buildings, poles or utility structures. Once in the open, remain there until tremors are over.
- Do not run through or near buildings. The greatest danger of falling debris is just outside doors and near walks.
- If you are in a moving vehicle, stop as quickly as safety permits, but stay in the vehicle. Your vehicle may move violently due to the movement of the suspension. It will protect you from possible electrical shock by fallen wires and will shelter you from falling objects. When you begin driving, watch for hazards created by the quake, such as fallen objects, downed electrical wires, or broken or undermined roads. Broken water or sewer lines may cause flooding conditions. Never drive through any stream when you cannot determine the road condition below the surface or the depth of the water.

B. After an Earthquake

- All employees:
    - Check for injuries. Do not attempt to move seriously injured persons unless they are in immediate danger of further injury.
    - Keep out of severely damaged buildings. After-shocks can shake them down. Report known structural damage to responding emergency crews. They are equipped to handle entry into these buildings.
    - Make your initial report to the Park Supervisor, if telephones or other communications are available. Often, during or after earthquakes, there are no telephone communications. Keep any communication to a minimum.
    - Be prepared for additional shocks.
    - In case of injury to any personnel, seek emergency medical care and notify Park Supervisor. Also, record the pertinent information for accident reporting to Workman's Compensation and the sick leave reporting per SAM.
- Maintenance Personnel:
    - Check utility lines and appliances for damage. Should you smell gas, open windows and shut off the gas main. Immediately leave the building and report leak to utility authorities. Do not re-enter the building until entry is approved by the utility.
    - Shut off water mains if the pipes are damaged and leaking.

- If sewer line damage is suspected, question the use of sinks and toilets. If the building electrical circuits are shorting or sparks are evident, shut off power at the main panel.

C. If Evacuation Ordered

- Evacuate as instructed by supervisors or emergency personnel. See fire evacuation.
- Be aware of falling debris or electrical wires as you exit. There may be structural damage to floors. Check for give or excessive movement before crossing any damaged areas.
- Go to the assigned muster point as designated by supervisors or emergency personnel. Avoid tall buildings, power lines or telephone poles, trees or other high structures.
- Be prepared for additional after-shocks and possible panic in others. Stay calm and follow all emergency instructions given by those in authority.

VI. Explosion

- Try not to panic. Take cover from falling debris and other objects.
- Check the immediate area for injured persons and evacuate.
- Leave the building using an exit path as far as possible from the explosion site.
- Notify the authorities and your Park Supervisor as quickly as possible. Give all available information about the location, kind of explosion, persons injured and damage to the facility.
- If there was minor damage or no damage to your area, remain there, stay calm and wait until an evacuation order is given.
- Fires and building damage are common effects and you may have to use fire extinguishers, help the disabled or injured, or guide persons through damaged areas of your facility.
- See fire evacuation requirements.

VII. Medical Emergencies

A. Serious Illness or Injury

- Do not move the person unless absolutely necessary.
- Have someone designated to notify the local ambulance services or the fire department, if appropriate.
- Give first aid to the extent of your qualifications to do so.
- Comfort the person until assistance arrives.
- Notify the Park Supervisor of the situation and have someone stand by to direct the ambulance company to the location.
- Gather facts for a report, including the person's name and address and that of the ambulance company, the time and type of illness or injury and any facts about the cause. If the person is an employee, additional information for a Workman’s Compensation claim and sick leave forms should be obtained.

VIII. Hazardous Materials

- Background - The use and transportation of hazardous materials is constantly growing. These materials are associated with agriculture, manufacturing, mining, office processes and many other day-to-day endeavors. Division employees should have adequate knowledge to identify these materials. They should also know who to contact and what to do, to minimize their own and public exposure. They are common items that we use every day without thought or concern, until an incident occurs that causes a dangerous situation. For instance, a spill of a small amount of gasoline is a hazardous material incident. It must be handled in a specific manner to avoid explosions or a fire. The same is true of heating gases and oils. Most common cleansers may produce toxic vapors when misused or mixed with other chemicals cleaners. We have large quantities of flammable and combustible liquid materials in our offices, storage rooms and maintenance areas. Paints, solvents, cleaners, copy machine toners and solvents, and other materials are commonly found. In sufficient quantities or in specific circumstances, any of these may cause a hazardous material incident.
- Policy - Division of State Parks will protect its employees and the public it serves, from the potential dangers of a hazardous material incident. All units within the Division and employees will be prepared to notify the proper authorities in the event of such an incident. The Regional Manager will receive the necessary reports and will advise the administration.
- Procedures - The Supervisors will inventory the spaces, areas and offices they occupy and inventory those items that have warning or hazard labels. Such items shall be stored so that common hazards are together in proper storage containers. If you are unsure, call the State Fire Marshall Division for further information. Employees who use these materials must be trained in the proper use and storage of the items. An employee shall be designated by the unit supervisor to notify the proper authorities in the case of a hazardous material incident.
- A telephone list will be maintained by a designated employee for notification of an incident. The list will contain the numbers for:
    - Fire Department.
        - Regional Office (if applicable).
    - Division Headquarters.
    - Division of Emergency Management available 24 hours a day. Emergencies: (775)-687-0498, or (775)-687-0400; Non-Emergencies: (775)-687-0300.
- Employees will be encouraged to attend Level 1 Hazardous Materials Training given by the State Fire Marshal Division.
- Any employees involved in a hazardous material transportation incident, or a state vehicle involved in such an incident, should get up-wind and/or uphill from the incident immediately. Notify your office immediately, who in turn will notify the proper authorities. The employees involved are encouraged to have medical checks whenever there is a possible exposure to any hazardous material.

- In case of a chemical spill or incident that involves flammable or hazardous materials in your office or area:
    - Notify all persons in the area.
    - Have someone notify the fire department.
    - Quickly shut off all electrical or mechanical systems in the area.
    - Close any interior doors or openings to contain any vapors.
    - Small amounts, which do not have a toxic label, may be cleaned up by employees. However, large amounts of materials, or those with toxic labels and those the employee is unsure of, should be left for local authorities.
    - Evacuate the area when directed by a supervisor. See FIRE EVACUATION.
    - Make the notification listed above.
    - Maintain information sufficient for later reports.

IX. Terrorism

- Background - Terrorist activities may be aimed at individuals, governments, religions, institutions or even ideals. The characteristics of terrorism are intimidation and mental assault, the physical damage or death of persons, and the use of extreme measures for media attention. Some of the aspects of these activities and the plans for providing safety may have been covered in other parts of this plan. These include Explosions, Fire and Hazardous Materials sections. Other aspects are covered here and in following sections. Terrorist activities use basic emergency incidents to reach the media with their message or demands. Unfortunately, it is often the innocent worker who bears the damage of these incidents.
- Policy - It is the policy of the Division of State Parks that all measures for the safety of the employees and the public shall be used in the face of possible terrorism. Unit Supervisors shall take threats against the Parks, the employees, or the State Government seriously and shall follow the stated procedures to minimize the possible damage.
- Threats - A serious threat is one that puts a reasonable employee in fear of harm to himself or another or to his office or state property.
    - In any case where a serious threat is made to an employee by any member of the public, either by telephone, fax, email, mail, or through direct confrontation, the threat must be immediately reported to the employee's supervisor.
    - The supervisor shall immediately notify the Regional Manager of the threat. If the situation requires immediate detainment or arrest, the supervisor shall notify the Park Ranger, as well as the appropriate law enforcement agency.
    - The Regional Manager/Division Office, under the advice of the Attorney General, will proceed with the case proceedings.
    - The employee who received the threat will provide a written statement of the facts as quickly as possible after the incident. Time, date, location, possible witnesses, the

method of delivery of the threat, the actual words or materials of the threat, the fact concerning the person who made the threat (if possible) and any other observations that will aid the enforcement authorities. Telephone threats are difficult to record, however, there are tips that are useful in the Plan section BOMB THREATS.

- All employees will cooperate with any local law enforcement agency involved.

- Assaults - An assault means placing an employee in apprehension or fear of immediate bodily harm or actual physical damage done to his or her person by another. Harassment of an employee may be defined as assault when it results in apprehension or fear of bodily damage in that employee.
  - In any case where an employee is assaulted by a member of the public or a fellow employee, the employee shall immediately report the incident to a supervisor.
  - The supervisor shall report the incident to the Regional Manager, who will then notify the Deputy Administrator.
  - The employee shall provide written statements required by the law enforcement agency.
  - The Regional Manager and the Deputy administrator, under the guidance of the Attorney General, will decide the course of action the agency should pursue.

- Hostage Taking - The majority of hostage situations are perpetrated by terrorist and criminal groups. They intend to achieve the objectives of their organizations. While the possibility of being taken as a hostage is almost nonexistent for state employees, the fact that it could occur must be considered. An employee should notify the local law enforcement agencies immediately when possible. Often, the person involved will not have time or the ability to make any contacts.
  - Any employees who are outside the incident or who have knowledge of the situation should immediately notify the Park Supervisor. The Park Supervisor will notify the Regional Manager as quickly as possible.
  - Agency staff will stand by to aid the law enforcement agency. They will provide any information, within their knowledge, concerning the physical layout of the building or area, the employees being held and their general physical condition or any medical needs known, the methods of communications in the area, and any other information needed.
  - Hostage Employees
  - Cooperate, to the extent available, with the captors.
  - Do not volunteer information or help, in hopes of shortening the ordeal. Terrorists count on your developing sympathy with them, or you becoming impatient with the situation. You do not count as a person to the terrorist. You are a tool to be used and discarded.
  - Do not panic, keep calm, and attend to those who do not seem to be able to stand up to the situation.

- Make any special needs, such as any special medical conditions, known to the captors early.
- Make mental notes concerning the captors. Names, scars, tattoos, descriptions, unusual accent, mannerisms or clothing attire will all be helpful, should they escape the immediate scene.
- Do not take any actions, comments, or threats personally. These activities are designed to elicit desired responses from you.
- Keep any personal belongings out of sight. Rest as much as you are allowed and do no more conversing than necessary.

X. Bomb Threat

- Background - Bomb threats are somewhat common but should not be taken lightly. Such a threat may be a terrorist activity, a criminal form of blackmail, or may be simply the work of a demented mind. Civil unrest brought such threats to the forefront as a means of disturbance and it is now a very real problem.
- Policy - Division employees will treat a bomb threat as a serious offense against the employees and the property of the state. All possible precautions for safety will be carried out and all personnel will receive training to deal with the situation.
- Procedures - The document "Bomb Threat Procedure" as prepared by the State Fire Marshall, will be used to develop internal procedures. These procedures will provide information for the identification, receiving, and reacting to a bomb threat. This plan will be used for in-house training programs for current and new employees in each park. Each telephone receptionist will have a copy of the telephone check list immediately available to that desk for use in the emergency.

XI. Flooding

- General - Flooding can occur in any terrain and is particularly aggravated where natural cover has been removed by the construction of buildings, roads, and parking lots. Heavy rains can result in flash flooding, inundating cars and causing considerable damage to residential and industrial properties located along the stream channels or in flood zones.

- National Weather Service - Issue flash flood warning, watches, statements, and may advise of areas where flooding is most likely to occur. Individual agencies may or may not receive early warning. Those who do, and may be affected, should release personnel with adequate time to get to their homes, childcare facilities or other destinations before actual flooding. A Flash Flood Watch is issued when flash flooding is possible within the designated watch area; be alert. A flash flood "Warning" is issued when a flash flood has been reported or is imminent - take necessary precautions as follows:

- Before the Flood
- Park Supervisors will establish notification methods and information channels to personnel and clients in the parks and to the Regional Manager. Supervisors should know whether their area is within a flood zone, and areas below grade. They will survey their area of responsibility to determine the effects of flooding and the possible damage loss. Personnel will be assigned to move the most valuable materials and/or equipment to higher ground.
- All personnel will understand their evacuation route and be advised of the possible flooding. Those who need to leave to attend to family will be released at this time.
- If possible, monitor local weather or news services. Park supervisors will arrange to be kept advised of conditions through whatever resources they have available.
- At the approach of the flooding:
- Notify local emergency services, the Regional Office, and the Division of Emergency Management, on imminent point of flooding. Non-essential personnel should have been released early enough to allow them to get to safety.
- Close all windows, vents or other openings, beginning at grade level.
- Review buildings to secure property and records from possible flood damage.
- If possible, notify maintenance to secure utilities (electricity, gas or others). If unable to notify maintenance, personally attempt to secure utilities, if safe to do so.
- Prepare personnel for possible evacuation or upward movement within the park and be ready to implement it, as needed.
- If your park has a live-fired boiler on ground level or below with an attendant pressure tank, do not stay in the area unless it has been shut down and the pressure has been bled off by knowledgeable service persons.
- Make certain that all employees and clientele or park visitors have a place to assemble within shelter and that attendance roll is taken, to account for them. First aid kits, water and whatever clothing that is available should be brought there.
- After the flood:
- Do not handle live electrical equipment in wet areas: electrical equipment should be checked and dried before returning to service.
- Assess every person's wellness. Release all persons who can be sent home safely. Let all employees know of return to work schedule.
- Assess damage, inventory & prepare reports.

XII. Avalanche

- General - Avalanches, however remote, are still a possibility in some of the parks. Avalanche hazards are classified as high, moderate, or low days.
- High Hazard Days - During and after a major storm period, to include one or more of the following factors:

    - Snow intensity exceeds one (1) inch per hour for eight hours with winds of 15 or more miles per hour.
    - New snow depth exceeds 18 inches in 24 hours with winds of 15 or more miles per hour.
    - New snow depths exceed 24 inches in 24 hours without critical 15 mile per hour winds.
    - Evaluation by the U.S. Forest Service designate.
- Moderate Hazard Day - During and after a normal storm period, to include one or more of the following factors:
    - New snow depth between six (6) and 18 inches within 24 hours with winds of 15 or more miles per hour.
    - New snow depth between 12 and 24 inches within 24 hours without critical 15 mile per hour winds.
    - New snow depth exceeds six (6) inches, accompanied by eight hours of winds of 15 miles per hour, or more.
    - Four (4) to six (6) inches with winds, and four (4) to ten (10) inches without wind.
- Low Hazard Day - During any storm period that nets less than four (4) inches of new snow depth without critical 15 mile per hour winds and or possibly when no precipitation has occurred, both when high winds and extremely cold temperatures have prevailed for a prolonged period of time.
- Federal agencies will determine the hazard day conditions and notify the public through local broadcasting companies, as well as the National Weather Service radio channels.
- If Avalanche Occurs -
    - Assess physical state and if possible, location of personnel or visitors. Release all persons who can be sent home safely.
    - If possible, have trained personnel terminate utilities to any structures affected.
    - Notify Emergency Personnel and the Regional Manager.
    - The Nevada Department of Transportation (NDOT) is the state agency that manages all avalanches within Nevada. They have contacts with avalanche specialists for all rescues. As in confined spaces, rescues should only be attempted by trained personnel.

FALL PROTECTION – WORKING AT HEIGHTS

I. Introduction

The State of Nevada has adopted a Fall Protection and Working at Heights Standard, in accordance with OSHA 29 CFR 1910.28.

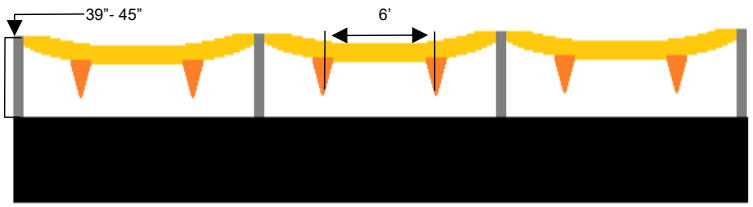
According to OSHA, employers have to assess their workplaces to determine if fall hazards are present. Where such hazards exist, they must choose the best method to protect their workers and implement the appropriate fall protection for that task; whether it is a warning line system, restraint system, fall arrest system, or a combination of any necessary. Unless working on a ladder, scaffold or scissor lift, OSHA requires fall protection when exposed to a fall of 4 feet or greater. Any/all fall protection methods Nevada State Parks will utilize must conform to the criteria set forth in OSHA 29 CFR 1910.28.

II. Controlled Access Zone

A. A Controlled Access Zone (CAZ) is an area that is inaccessible by workers, unless a worker makes a deliberate action to enter the area, they are permitted to enter the area by their fall protection plan (which is developed by a Qualified Person), and a safety monitor is present to supervise work being done in that area. This is typically reserved for certain types of work, such as leading-edge work, overhand brick-laying, or roofing work. Where leading edge and other operations are taking place, the controlled access zone shall be defined by a control line.

B. Control Line – A control Line is used to manage access to the CAZ, so that only authorized workers are granted access. A control line must meet the following criteria:

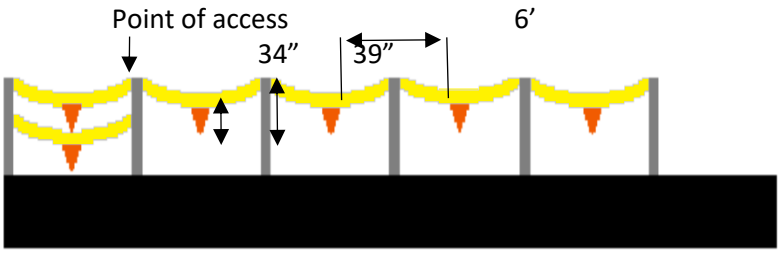
- Must be at least six feet from leading edge, and no more than 25 feet.
- Extends entire length of leading edge.
- Connects at ends to guardrail or wall
- Have a 200-pound breaking strength
- Be between 39 and 45 inches high
- Be flagged or marked at least every six feet



III. Warning Line System

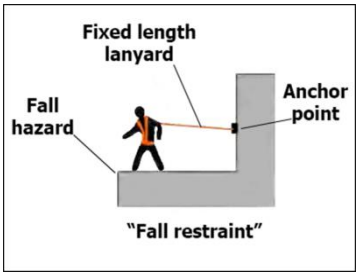
A warning line is a visual indicator of an area that is to be avoided, because it comes within 6 feet of the leading edge. Warning lines must meet the following criteria:

- Resist a 16-pound force directed outwardly, applied at 30 inches from the working level.
- Minimum tensile strength of 500 pounds.
- Pulling the line between stanchions will not take up any slack in other sections.
- If working between roof edge and warning line, other precautions must be taken.
- Must be erected around all sides of roof work area, at least 6 feet away from the edge.
- If mechanical equipment is used, the warning line must be at least 10 feet away from the edge.
- Must be flagged at least every 6 feet.
- Must be no higher than 39 inches, and no lower than 34 inches, including any sag.
- Must be made with high visibility material.
- Points of access must be formed by two warning lines.
- When access is not in use, it must be closed off.



IV. Fall Restraint

Fall Restraint is the process of having the affected workers wear a body harness and a fixed length lanyard that is tied to an anchor point, in order to physically allow the worker to go to the edge, but not physically over the edge.



V. Fall Arrest

Fall Arrest is the act of a worker's Personal Fall Arrest System (PFAS) arresting a fall that has already occurred. If a worker cannot feasibly implement a CAZ or fall restraint system, they must be trained in the use and care of, a PFAS, and the employer must provide the equipment to the affected employees. All components of a fall arrest system must be rated for that purpose and have a minimum tensile strength of 5,000 pounds per person that will be attached to it. Any employee issued a PFAS must be trained, and show competence in, the care and use of the harness and all components, and the employer must provide all equipment needed.

VI. Components of a Personal Fall Arrest system (PFAS)

- **Anchorage Point** – An anchorage point, or "tie-off point" means a secure point of attachment for the fall arrest system. An anchorage can consist of anything that can support the 5,000-pound rating that is required to be met when putting together a fall arrest system. This usually means structural steel, such as I-beams, or pre-cast concrete. Electrical conduit or fire sprinkler pipes are **NOT** to be used for fall arrest systems.
- **Body Harness** – A body harness is the full-body harness that is worn, in order to dissipate the energy of a fall over the entire body. They can also be used in a fall restraint system.
- **Connectors** – A connector is the item that connects your body harness to the tie-off point or anchorage. There are different connectors available, so the correct one for the task must be used. Some connectors include lanyards, snap-hooks, carabineers, deceleration devices (self-retracting lanyards), rope grabs, etc. Non self-locking carabineers or other connectors are **NOT** allowed. Any item not rated for fall arrest also shall NOT be used, with the exception of rigging components that are **BRAND NEW**, and still meet the requirements for fall arrest systems.
- **Descent** – Descent or rescue of a worker after a fall is a required component of any fall protection program. Descent or rescue refers to the process of getting a fallen employee down after a fall. In some cases, the employee may be able to reach a

ladder or something else to climb down, which would be the “descent” aspect. If an employee may not reach anything to climb down on their own, they must be rescued as soon as possible. If a worker (wearing fall protection) falls and is left suspended in the air too long, he or she may develop suspension trauma. OSHA defines suspension trauma, also known as orthostatic intolerance, as “the development of symptoms such as light-headedness, palpitations, tremulousness (trembling, quivering, or shaking), poor concentration, and occasionally, fainting” while suspended in a motionless state for a period of time. After a period of time, the blood will begin to pool in the lower extremities which can engorge the veins of the lower legs, creating a reservoir of oxygen-depleted blood. In extreme cases, the body tries to overcome this stagnation by temporarily increasing the heart rate to the point the sufferer may experience heart palpitations, sweating, or dizziness. If the situation is not remedied, the body then lowers the heart rate dramatically (to reduce arterial pressure), which, due to lack of blood pressure, may cause fainting. A quick rescue for the fallen employee is necessary and is part of the Fall Arrest ABC’s. It should be noted that Fall Arrest is to be our last resort and implemented only when no other protection method is feasible.

The basics of every Personal fall arrest system can be described as the ABC's of fall arrest.

A

ANCHORAGE

Anchorage means a secure point of attachment (Structure) for the fall arrest system.

B

BODY SUPPORT

Full body harnesses provide a connection point on the worker for the personal fall arrest system.

C

CONNECTORS

Connectors are devices used to connect the worker's full body harness to the anchorage system. (Eg. shock absorbing lanyard, self retracting lifeline, etc.).

D

DESCENT / RESCUE

Rescue and retrieval of a fallen worker is a required component of any fall protection program.

According to OSHA 1926.502(j), employers must also ensure no tools or materials are dropped onto any persons below the working area. This can be done in several different ways, including toe boards, storage of tools/materials away from any edges, and netting or canopies. Restricting access below, through use of delineators and "danger" tape, called an "exclusion zone", can also be used, to keep people out of the area. All exclusion zones must have signage posted, warning others of the risk of falling objects, and to stay out of the area.

MACHINE AND EQUIPMENT SAFETY

I. General

This section sets down rules for the operation of machine equipment, including but not limited to: tractors, chippers, stump grinders, lawn mowers, and chainsaws.

II. Qualification, Authorization and Operators

Personnel shall operate only the equipment they have been qualified and authorized to use. Employees not familiar with equipment will operate such equipment only under the direct supervision of a skilled operator.

Designated and trained maintenance personnel will have the primary responsibility for operation of heavy equipment. Ranger staff will serve as back up equipment operators if maintenance staff are not available or a demonstrated need for additional operators exists. Assignments for equipment operation will be determined by the Facility Supervisor and the Regional Manager. The Facility Supervisor or a designee, will provide documented training on the operation and maintenance of the equipment. Personnel assigned to heavy equipment will be kept to as small a number as possible, to enhance the maintenance of the equipment and prolong its life.

Heavy equipment is defined as backhoes, tractors, dump trucks, loaders, graders, boom trucks, and forklifts.

III. Standard Safety Features

Machine equipment will be ordered with standard safety features. Cages, canopies and all roll bars are provided to protect against falling or protruding objects, swinging loads, winch cables, rolling over, and related hazards. In cases where this protection has **not** been added, each operator must avoid use of the equipment in certain hazardous situations. For example, a wheel tractor with no roll protection must never be used for side-hill forest operations.

Non-skid material must be provided on slippery operating platforms, foot walks, ladders, steps and toe boards. Graders, end loaders and dump trucks shall be provided with an automatic back-up warning device. However, it is still the operator's duty to check that it is clear behind the equipment, before backing. Providing guards (when practical) on all gears, sprockets, drive belts, chains, pulleys, drums, and fans will reduce the likelihood of injuries. Guards must not be removed or made ineffective except for repairs.

IV. Auxiliary Safety Supplies

On every equipment job, keep a basic set of safety supplies nearby:

- First Aid Kit
- Fire Extinguisher
- Personal Protection Equipment

Besides those supplies mentioned above, the job may call for chock blocks, "Slow Moving Vehicle" sign, red flagging for loads, traffic cones and vests for traffic control, flares, etc. Each supervisor must see that these and any other needed safety supplies are on hand during operation.

V. Operating Procedures

A. Before Starting - Check out the machine:

- Check the oil level; top off if necessary.
- Check the coolant level; top off if necessary, with the correct mixture.
- Check the tires.
- Lubricate grease points according to manufacturer's recommendation.

IMPORTANT: The best way to keep your machine in safe operating condition is to follow the Operator's Manual. **IF YOU DO NOT HAVE A MANUAL FOR A PIECE OF YOUR MACHINE EQUIPMENT, REQUEST ONE FROM MAINTENANCE. THEY HAVE IT OR WILL GET IT FOR YOU.**

B. Fueling

- Stop the engine before refueling.
- Fill the tank after each day's run.
- Never remove the fuel tank cap or fill the tank while the engine is running, or when it is near open flame.
- When pouring the fuel, keep the hose, nozzle, funnel, or container in contact with the metal of the fuel tank to avoid a static spark.
- **NO SMOKING** while refueling.

C. Operation - Safe machinery operation requires the operator observe common sense guidelines:

- Never start up without double checking that the **"coast is clear."** Put the transmission in neutral and depress the clutch fully before starting. On some machines, a SAFETY STARTING SWITCH is provided, making it impossible to crank the engine unless the transmission is in neutral or the clutch depressed. **NO ONE SHALL BE IN FRONT OF OR BEHIND A SELF-PROPELLED MACHINE BEING STARTED UP.** Make sure it is out of gear. If you're the operator, it is your responsibility to inform them to get out from the way of the machine.
- Never go under, or into dangerous places around equipment. Never walk under any suspended loads. Tag the control panel if necessary.
- When the machine is stopped and engine idling, place the transmission in neutral and engage the master clutch (if applicable) and drop blades, bucket, or forks, to prevent the machine from being jarred into motion.
- Never get on or off moving equipment. Make sure it stops, AND you have made contact with the operator and they know you are there and are coming onto the equipment.
- Permit no one, except a trainee, examiner, or mechanic engaged in actual repair, to ride on the seat with the operator, and then only if the slope is less than 30% and adequate hand holds are available.

D. Defensive Operation - Always practice it. That means:

- Use common sense. Always understand the operating limitations of the equipment and operate within those limitations. Refer to load charts, if you're unsure. If load charts become illegible, **DO NOT** continue use of that machine, and immediately report it to your supervisor.

- Avoid doubtful, precarious, or spectacular operations.

- Avoid operating under abnormal situations created by ground, weather, or fire conditions, unless absolutely necessary to provide for public safety (for example: clearing a path to evacuate campers during a flood).

VI. Equipment Inspection

When machinery or equipment, including rentals, are received, remodeled or repaired, it shall be inspected for safe operating conditions by a qualified person before operating.

VII. Transporting Equipment

- Check the route of travel before transporting. Look for overhead and side clearance, culverts and bridges, and overhead lines.

- The operator must know the weight, width and height limits set by the Traffic Code and comply with State requirements for flagging, signaling, and signing, such as **"Wide Load"** or **"Slow Moving Vehicle"** signs.

- Heavy equipment should be blocked lengthwise and sideways on truck or trailer beds. It must be bound securely both front and rear or on both sides with chain or cable and tightened with load binders.

- Planks, chains or other loose items on trucks or transports must be crated or secured before moving.

LOCKOUT/TAGOUT

I. Hazardous Energy Source Control Program

A. Introduction - The State of Nevada has adopted a Hazardous Energy Source Control Standard, OSHA 29 CFR 1910.147 and Electrical Work Practice Standards, OSHA 29 CFR 1910.333 (b) (2) (iii) (D) and (b) (2) (iv) (B), to ensure that the hazards of energy sources during servicing or maintenance of machinery or equipment is evaluated, a procedure developed for energy control, and that information is transmitted to affected personnel.

Each Region and Park Unit will have a Program for Hazardous Energy Control. This will be referred to as Lockout/Tagout. Lockout/Tagout will be used to make employees aware of the safety and health hazards associated with hazardous or stored energy during maintenance and repairs of machines or equipment. The purpose of this program is to ensure that the control of hazardous energy is evaluated, and procedures are developed to dissipate hazardous energy and that this information is transmitted to employees. This transmittal of information is accomplished by periodic inspections, training, implementation and annual review of procedures for controlling energy during maintenance and repairs of machinery and equipment.

According to OSHA 29 CFR 1910.147 (c) (4) (i), an employer need not document the required procedure for a particular process or equipment, when **ALL** of the following elements exist: (1) The process or equipment has no potential for stored or residual energy or re-accumulation of stored energy after shut down, which could endanger employees; (2) The process or equipment has a single energy source which can be readily identified and isolated; (3) The isolation and locking out of that energy source will **COMPLETELY** de-energize and deactivate the process or equipment; (4) The process or equipment is isolated from that energy source and locked out during servicing or maintenance; (5) A single lockout device will achieve a locked-out condition; (6) The lockout device is under the exclusive control of the authorized employee; (7) The servicing or maintenance does not create hazards for other employees; **AND** (8) The employer, in utilizing this exception, has had no accidents involving the unexpected activation or re-energization of the process or equipment during servicing or maintenance.

NOTE: Section II is the program format that is to be used for the development of a **LOCKOUT/TAGOUT PROGRAM** for each unit.

B. General - Specific regulations cover procedures for controlling hazardous energy sources. These procedures include shutdown, energy isolation, release of stored energy, Lockout/Tagout application, verification of isolation, removal of Lockout/Tagout, re-energizing equipment and machines, certification of periodic inspections and certification of the employees training.

C. Energy Sources - Energy types include, but are not limited to: electrical, mechanical, hydraulic, pneumatic, chemical or thermal. This also includes stored or residual energy found in springs, elevated machine parts or in air, gas, and steam or water pressure. An energy source must be isolated before employees can perform maintenance and servicing of equipment, machines and processes. Energy sources can be isolated by closing valves, relieving trapped pressure, disconnecting circuits and fluid or gas lines, or locking out breakers in the OFF position, and VERIFYING there is no stored energy. No matter the isolation method, the source must ALWAYS be verified to be isolated and safe for commencing repairs or other work. Elevated parts must be blocked or restrained to prevent them from moving or falling.

D. Lockout - Lockout means to put a padlock on an energy isolating device such as a disconnect switch or valve, after the equipment and machines have been shut down. A padlock on an isolating device is the most secure way to prevent machines and equipment from being operated while servicing or maintenance is being performed. Only use the approved Lockout/Tagout

padlocks that are supplied to you by the State of Nevada Parks Safety Department. Do NOT use personal padlocks.

E. Tagout - Tagout means to put a special tag on equipment energy isolating devices (the Lockout padlock). These tags warn other employees that the equipment must not be operated until the locks and tags are removed by the authorized employee. Tagout is only a warning and informational device and is NOT to be used instead of Lockout. The tag should have the name and contact number of the authorized employee on it, in case they need to be reached. Both Lockout and Tagout are used together; if you lock something out, you should also have a tag, in order to identify who the lock belongs to. A tagout device does not prevent energy isolating device movement. They warn affected and other employees that the tags must not be removed and that energy isolating devices must remain in their current position. Tagout devices and their means of attachment shall be of a **NON-REUSABLE** type, attachable by hand, self-locking, and non-releasable with a minimum unlocking strength of no less than 50 pounds, and having the general design and basic characteristics of being at least equivalent to a one-piece all-environment-tolerant nylon cable tie. Tagout devices must also be resistant to dirt, dampness and corrosion. Devices must be standardized and have a type, format and warning that are the same for all Park tagout applications. Devices must be understandable, easily read (legible) and identify the authorized employee, equipment and work being done.

F. Devices - A Lockout device used in Lockout procedures must use a means to hold an energy isolating device in the safe position and prevent the energizing of machines, equipment, or any other source of energy. The device must be substantial enough so it cannot be removed without excessive force or unusual techniques, such as with the use of bolt cutters or other metal cutting tools. Devices must be identified with the name and phone number of the (authorized) employee who uses it. The authorized employee must not take the key home at the end of the day. If work is to be continued for more than one day, the lock may remain on the energy isolating device, and the key can be given to the Safety Department, or to a Supervisor.

G. Program Requirements And Responsibilities - The Division of State Parks has the responsibility to provide a healthy and safe working environment. This will be accomplished in part by the development, implementation and enforcement of a Hazardous Energy Control Program. This program is to include:

- Written procedures in all aspects of a Lockout/Tagout Program.
- Effective initial training of authorized, affected and other employees to help them recognize hazardous energy sources.
- Identification of hazardous energy sources.
- Training of authorized, affected and other employees on the District and Park Lock-out/Tagout Procedures.

- Issuing padlocks and tags for authorized positions for use in all Lockout/Tagout operations.

- Effective retraining as needed for authorized, affected and other employees.

- Certification of training which identifies each employee by name, position and date of training.

- Conducting periodic and annual inspections of Lockout/Tagout procedures, equipment and machines to verify the effectiveness of the District/Parks Program.

Authorized, affected and other employees are responsible for following the established Lockout/Tagout Procedures. **Failure to comply with these procedures will result in disciplinary action and may result in employee discharge.**

H. Program Procedures:

- Lockout must be performed only by a trained and authorized employee. When more than one authorized worker is involved, group lockout procedures should be followed. To perform lockout procedures, you must know the types of energy and sources involved. Locate the disconnect switch, breaker, valve, or other isolating devices that control energy sources. Push buttons, selector switches and other control circuit type devices are NOT energy isolating devices. Notify affected and other employees of machine or equipment shutdown and which energy isolating devices will be locked out, when, and for approximately how long. Shut off the machine or equipment and lockout the energy isolating device to make sure they stay in the isolated position. Release stored energy in compressed springs and trapped pressure in air, hydraulic and gas systems. Block, restrain, vent or bleed anything that could move or cause movement. Make sure affected workers maintain a safe distance from the machine or equipment. Turn on the controls to be sure the energy sources have been isolated. Make sure the machine or equipment will not operate. Return the switches to the off or neutral positions. Conduct the servicing required.

- Tags can be used only if they provide the same level of safety furnished by lockout (See Lockout). If tagout is used, additional safeguards beyond those necessary for lockout are required. Measures that can reduce the possibility of energizing include: removing a circuit interrupting element, blocking a controlling switch, opening an extra disconnect device or closing a valve and removing the handle.

- Sometimes a group of employees must repair or maintain equipment or machines. When this is the case, the responsibility for the lockout/tagout goes to the individual coordinating the maintenance operation. This Employee must make sure all members of the group are protected during the lockout. All group members must attach their own lock/tag using a multiple lockout/tagout hasp. Only the person who installs his or her lock/tag is allowed to remove it.

- Restoring Energy - When servicing and maintenance is completed, all employees are to be kept at a safe distance from the machine or equipment. All tools and equipment used during servicing must be removed from the area. Reinstall all safeguards and then remove lockout/tagout devices. Restore energy to the system. Test for safe and correct operation, and if the system is not working properly, reinstate the lockout/tagout program. When the system is restored to proper operation, notify affected and other employees that the equipment or machinery is in service and is safe to operate.

I. Contractors and Other Outside Agency Employees - Whenever employees from outside the agency perform maintenance and servicing of equipment, the Park Supervisor and the outside employer or contractor must inform each other of their Lockout/Tagout procedures. **These Lockout/Tagout procedures will be implemented and enforced by the Park Supervisor, according to established procedures.**

II. **Control of Hazardous Energy Source and Electrical Hazards**

NOTE: This section contains the actual control of hazardous energy source and electrical hazards (lockout and tagout) plan. A plan is to be completed and implemented for each Park unit.

A. Purpose - The purpose of this program is to ensure that all Parks and Facilities of the Nevada Division of State Parks are in compliance with the OSHA Control of Hazardous Energy Source (29 CFR 1910.147) and with the OSHA Electrical Work Practice Standards (29 CFR 1910.333 (b) (2) (iii) and (b) (2) (iv) (B).

B. General Information - Lockout is the preferred method of isolating machines or equipment from energy sources. New equipment will be installed with lockout capability. To assist regions and parks in developing a procedure which meets the requirements of the standard, the following procedure is to be used in both the lockout or tagout program. This procedure may be used when there is a single power source. For more complex systems, a more comprehensive procedure will need to be developed, documented, and utilized. Specific procedures for more complex energy sources is outlined in Form-E through H. Methods of identifying locks and tags are contained in Appendix G.

NOTE: Specific procedures for electrical systems are not required.

C. Lockout/Tagout Procedures For Single Power Sources - This procedure establishes the minimum requirements for the lockout or tagout of energy isolating devices. It shall be used to ensure that the machine or equipment is isolated from all potentially hazardous energy, and locked out or tagged out before employees perform any servicing or maintenance activities where the unexpected energizing, start-up or release of stored energy could cause injury from equipment. NOTE: Machinery, equipment, and/or processes without lockout capability require specific procedures for tagout of subject hazardous energy source (see appendices G and H).

D. Responsibility - Appropriate employees shall be instructed in the safety significance of the lockout or tagout procedures. Appendix G Form-A is a list of names and job titles of employees authorized to lockout and tagout. Each new or transferred affected employee and other

employees whose work operations are or may be in the area shall be instructed in the purpose and use of the lockout or tagout procedure. The job titles of the affected employees must be listed on Form-A. Prior to lockout/tagout the senior authorized individual will brief all affected employees in person.

In the event of tagout system only, the authorized individual will also brief all other personnel potentially exposed to the hazard in person. The procedures noted in the **SEQUENCE OF LOCKOUT OR TAGOUT. SYSTEM PROCEDURE WILL BE FOLLOWED.**

E. Preparation For Lockout or Tagout - Make a survey to locate and identify all isolating devices to be certain which switch(s), valve(s) or other energy isolating devices apply to the equipment to be locked or tagged out. More than one hazardous energy source and/or means of disconnect (electrical, mechanical, or others) may be involved. If more than one energy source or stored energy is present, consult appendices E and F for specific procedures and then follow the specified procedure. In the case that a machine or piece of equipment does not have a specific procedure, contact the Park Supervisor or Supervising Park Maintenance Specialist immediately. **No work can proceed until the Park Supervisor or supervising Maintenance Repair Specialist writes and provides the authorized person with a specific procedure.**

F. Sequence of Lockout of Tagout System Procedure:

- Notify all affected employees that a lockout or tagout system is going to be utilized and the reasons. The authorized employee shall know the type and magnitude of energy that the machine or equipment utilizes and shall understand the hazards.

- If the machine or equipment is operating, shut it down by normal stopping procedure. This is usually done by depressing the stop button, open toggle switch, etc. In addition, ensure that all stored energy is dissipated or properly restrained.

- Operate the switch, valve, or other energy isolating device(s) so that the equipment is isolated from its energy source(s). Stored energy such as the springs, elevated machine members, rotating flywheels, hydraulic systems, air, gas, steam, or water pressure, etc. must be dissipated or restrained. **COMBINATIONS OF THESE ENERGY SOURCES AND ANY STORED ENERGY WILL REQUIRE A SPECIFIC PROCEDURE; IN THIS CASE, CONSULT APPENDICES E AND F FOR THE SPECIFIC PROCEDURES.**

- Lockout and/or tagout the energy isolating devices with assigned individual lock(s) or tag(s). **NOTE:** If the machine will accept locks, the system shall be locked out. Tags may only be used when the machine or equipment does not have lockout capability; in this case, a specific procedure must be developed. Remember when tags are used, in addition to informing the affected employees, all other employees who have access to the plant or area, will be briefed on the area, machine, and type of hazard tagged out. **NOTE:** Consult appendices G and H for specific tagout procedures.

- After ensuring no personnel are exposed and making a check on having disconnected the energy sources, operate the push button or other normal operating controls to

make certain the equipment will not **operate. CAUTION: RETURN OPERATING CONTROL(S) TO "NEUTRAL" OR "OFF" POSITION AFTER THE TEST.**

- The equipment is now locked out or tagged out.

G. Restoring Machines or Equipment to Normal Operations:

- After the servicing and/or maintenance is complete and equipment is ready for normal production operations, check the area around the machines or equipment to ensure that no one is exposed.

- After all tools have been removed from the machine or equipment, guards have been reinstalled and employees are in the clear, remove all lockout or tagout devices. Operate the energy isolating devices to restore energy to the machine or equipment.

H. Procedure Involving More Than One Person - In the preceding steps, if more than one individual is required to lockout or tagout equipment, each shall place his/her own assigned lockout device or tagout device on the energy isolating device(s).

When an energy isolating device cannot accept multiple locks or tags, a multiple lockout or tagout device (hasp) may be used. If lockout is used, a single lock may be used to lockout the machine with the key being placed in a lockout box or cabinet which allows the use of multiple locks to secure it. Each employee will then use his/her own assigned lock to secure the box or cabinet. As each person no longer needs to maintain his or her lockout protection, that person will remove his/her lock from the box or cabinet.

I. Basic Rules for Using Lockout or Tagout System Procedure - All equipment shall be locked out or tagged out to protect against accidental or inadvertent operation when such operation could cause injury to personnel. Do not attempt to operate any switch, valve, or other energy isolating device when it is locked or tagged out.

J. Removing Lockout or Tagout - Locks will only be removed in cases where the authorized employee who applied it is not available, and all efforts to reach them have been exhausted, and they are verified to no longer be on site. Locks will only be removed by the Regional Manager or the Regional Manager's appointee. The employee who had his lock removed will be notified by the Regional Manager or the Regional Manager's Appointee prior to returning to the work site.

K. Informing Outside Contractors - The Park Supervisor will inform all outside contractors of the elements of this program and ensure that work efforts covered by this procedure are fully coordinated and complied with.

L. Shift or Personnel Changes - In the case of shift or personnel changes, a changeover period will be established so that the authorized employees may exchange their assigned locks/tags.

Authorized personnel assuming control of lockout of equipment will be fully briefed in the scope and stage of the work by those whom are being relieved.

M. Accidents - The Regional Managers will be responsible for fully investigating all lockout/tagout accidents and reporting the cause of such accident to the Division Safety Coordinator. If the accident involved the control of hazardous energy with a single lockout source, a specific procedure will be written and included in Appendix G Form-F before work is continued. If the accident involved a specific procedure for a piece of equipment, the lockout/tagout specific procedure will be evaluated and modified (if necessary) prior to authorizing work to continue.

Prior to writing a specific procedure and evaluating an existing procedure, the Energy Source Determination Checklist will be completed (see Appendix G Form-E).

III. **Inspections**

A. Initial Evaluations - Initially, all machines with multiple sources of power and stored energy shall be evaluated by Appendix G Form-E, the Energy Source Determination Checklist. This evaluation will be made by an authorized employee who is not involved in the lockout of subject equipment. Those involved in the lockout/tagout and those affected by the lockout/tagout may participate in the evaluation, if necessary.

B. Periodic Evaluations - The effectiveness of the entire program will be evaluated by the Regional Manager, the Park Supervisor and if applicable, the Facility Manager. The date of the inspection/evaluation will be maintained annually as a part of this program until the next annual evaluation replaces it. Inspections must:

- Be conducted at least annually.
- Be performed by authorized employees other than those utilizing the energy control procedure under inspection.
- Be designed to correct any deviations or inadequacies observed.
- Include review of each authorized employees' responsibilities under the procedure(s). If Tagout is used, then include review of limitations of tags.

IV. **Training**

A. General - Training shall be given to all authorized, affected and other personnel as required by 29 CFR 1910.147 (c) (7). The Regional Manager will appoint an instructor to conduct training and prepare a record and certify that the employee training has been accomplished. A copy of this training will be maintained at the Park and Regional Office. A Regional appointee will conduct retraining whenever reestablishment of employee(s) proficiency is required and whenever new or revised control methods and procedures are developed.

B. Key Points for Training Program

- Procedures developed, documented and utilized for control of potentially hazardous energy.
- Identification of the locks, tags, chains, wedges, key blocks, adapter pins, self-locking fasteners, or other hardware for isolating, securing or blocking machines or equipment provides by the agency.
- Lockout/Tagout devices are used only for controlling energy.
- Lockout/Tagout devices are not used for other purposes.
- Durable lockout/tagout devices must be capable of withstanding the environment to which they are exposed for the maximum period of time that exposure is expected.
- Lockout/Tagout devices must be uniform within each facility in at least color, shape and size.
- Tagout devices must have standardized Print and Format and must be legible and understandable.
- Identifiable lockout/tagout devices must indicate the identity of the employees applying the devices.
- When major modifications are made to machinery, electrical systems or when new machinery is installed, the energy source must be designed to accept a lockout device.

V. Methods of Lock and Tag Identification (As per 29 CFR 1910.147 (c) (5))

A. Locks - All locks will be standard to the park's Lockout/Tagout program. Each tag will clearly have the authorized employee's name, title, initials and radio call number, or phone number. Example: a tag for the Park Supervisor for Lahontan would be labeled **PS 3201** on both sides. Locks should be brightly colored to aid in recognition and identification. Keys and locks will be issued to each authorized park. The second key should be secured and retrieved only in the event the other one is lost. Locks will be provided by the individual Park Units.

VI. **Electrical**

A. Lockout/Tagout - Electrical work requires a lock and a tag to be used together (29 CFR 1910.333 (b) (2) (iii) (D)). However, a tag can be used by itself only if the electrical disconnecting source does not have lockout capabilities. Locks can be placed without a tag only under the following conditions:

- Only one circuit or piece of equipment is de-energized.
- The lockout period does not extend beyond the work shift.
- Employees exposed to the hazards associated with re-energizing the circuit or equipment are familiar with this procedure.

B. Electrical Test Verification of De-energized Circuits - A qualified person shall use test equipment to test the circuit elements and electrical parts of equipment to which employees will be exposed and shall verify that the circuit elements and equipment parts are de-energized. The test shall also determine if any energized condition exists as a result of inadvertently induced voltage or unrelated voltage back feed even though specific parts of the circuit have

been de-energized and verified to be safe. If the circuit to be tested is over 600 volts nominal, the test equipment shall be checked for proper operation immediately before and immediately after this test. (29 CFR 1910.333 (b) (iv) (B)

C. Work on Energized Circuits - Approval must be obtained from the Division Safety Coordinator prior to any work on energized circuits. State Park Planning and Development personnel and the Park Supervisor will verify that by de-energizing circuits, additional or increased hazards will be created, or that due to equipment design or operational limitations, de-energizing is not feasible.

NOTE: Working on energized parts requires the wearing of appropriate Personal Protective Equipment (P.P.E.). The Park Supervisor will be responsible for specifying appropriate personnel equipment to be used, to ensure compliance with 29 CFR 1910.335. Personal Protective Equipment for electrical hazards shall meet, be used, and maintained, in accordance with ANSI J6.1 through J6.7.

WORKING IN CONFINED SPACES

I. Introduction

Many workplaces contain spaces that are considered to be "confined" because their configurations hinder the activities of employees who must enter, exit, and work within. In many instances, employees who work in confined spaces also face increased risk of exposure to serious physical injury from hazards such as entrapment, engulfment, and hazardous atmospheric conditions.

The Occupational Safety and Health Administration (OSHA), based on its review of agency fatality and injury data, enforcement experience, and other information, has determined a standard is needed to protect entrants into confined spaces. As a result, Title 29 of the Code of Federal Regulations, part 1910.146 contains the requirements for practices and procedures for working in confined spaces.

II. Confined Spaces

A confined space is defined as a workspace that:

- Is large enough and so configured that an employee can enter it and perform assigned work.
- Has limited or restricted means of entry or exit.
- Is not designed for continuous human occupancy.

The standard refers to two classes of confined spaces: permit-required (Permit Required Confined Space, or PRCS) and non-permit required confined spaces. Non-permit confined spaces meet the above definition but do not actually or potentially contain hazards that could cause death or serious physical harm. Permit-required confined spaces also meet the above definition but additionally meet one or more of the following characteristics:

- Contains or has the potential to contain a hazardous atmosphere.

- Contains a material that has the potential for engulfing an entrant.

- Has an internal configuration that might cause an entrant to be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross section, and/or;

- Contains any other recognized serious safety or health hazards.

  Entry into a Confined Space is considered to have occurred as soon as ANY part of the entrant's body breaks the plane of an opening into the space. This means that just sticking your head inside to have a look, makes you an entrant. Do not put any body part inside the space, unless you are an entrant. If you are an entrant, follow the sign-in and sign-out rules that are set forth.

III. Confined Space Hazards

Confined spaces include, but are not limited to: storage tanks, wet wells, process vessels, towers, drums, boilers, furnaces, bins, sewers, septic tanks, manholes, and pits.

A. **Hazardous Atmospheres** are defined by OSHA as an atmosphere which exposes employees to a risk of death, incapacitation, injury, or acute illness. OSHA data indicates the majority of confined space deaths and injuries are caused by atmospheric deficiencies or contaminants.

- Oxygen Deficient Atmospheres - The normal atmosphere is composed of approximately 20.8% oxygen. OSHA defines an oxygen deficient atmosphere as being less than 19.5% oxygen by volume at sea level. Oxygen deficiency can result from displacement by other gases such as methane or the consumption of oxygen by combustion of flammable materials, oxidations, or aerobic bacterial action. The simple activity of human occupation in a confined space can reduce oxygen levels. DO NOT ENTER A CONFINED SPACE IF THE OXYGEN LEVEL IS BELOW 19.5%.

- Flammable Atmospheres - Two factors make an atmosphere flammable: the oxygen in the air, and a flammable gas, vapor, or dust in the proper mixture. Different gases have different flammable ranges. All flammable chemicals will have a Lower Flammable Limit (LFL) and an Upper Flammable Limit (UFL). Between this range of concentrations, a chemical in the air will ignite, burn, explode, or otherwise support combustion. If a source of ignition, such as a spark, is introduced, an explosion will result. Concentrations less than the LFL will not burn because it is too lean and concentrations above the UFL will not ignite because it is too rich. OSHA defines a flammable atmosphere as any atmosphere exceeding 10 percent of the LFL.

  Any concentration of a combustible gas should be a concern, as mixtures can collect in pockets reaching combustible levels within the space. Those gases that are heavier than air will seek lower levels in the space, while lighter gases will seek upper levels. This is an important concept in testing and monitoring the space and is the basis for requiring that all levels of the space be tested.

  Dust can also accumulate at combustible levels in confined spaces. Dense accumulations of fine dust can explode when ignited and are considered

flammable. OSHA defines an airborne combustible dust as any concentration that meets or exceed its LFL, which can be estimated by a concentration that obscures vision at a distance of five feet or less.

CONFINED SPACES WHICH CONTAIN FLAMMABLE ATMOSPHERES ABOVE 10% OF THE LFL/LEL, OR WITH POTENTIALLY EXPLOSIVE DUST LEVELS WILL NOT BE ENTERED.

- Toxic Atmospheres - OSHA defines a toxic atmosphere as any atmosphere which exceeds or could reasonably exceed the Permissible Exposure Limit (PEL) for any substance specified in Sub-part Z of 29 CFR Par 1910. Where PEL does not exist, exposure limits in "NIOSH (National Institute for Occupational Safety & Health) Recommendations for Occupational Health Standards", the current ACGIH (American Conference of Governmental Industrial Hygienists) "Threshold Limit Values and Biological Exposure Indices" or other references such as Safety Data Sheets (SDS) should be used. SDS's for all materials used in a confined space will be immediately available for reference and review for all confined space entries.

  Primary sources of toxic substances in confined spaces are:

- Products stored in the space. The product can be absorbed into the walls and give off toxic gases when removed or when cleaning out the residue of a stored product.

- The work performed in the confined space by activities such as cleaning, welding, brazing, grinding, painting, scraping, degreasing, etc.

- The area adjacent to the confined spaces can be a source of toxicants which can accumulate in the confined space, such as fumes from operations near vehicle or other internal combustion engines (gas, diesel, propane etc.) near the space.

  CONFINED SPACES WITH TOXIC ATMOSPHERES WILL ONLY BE ENTERED WITH THE APPROVAL OF THE FACILITY MANAGER AND THE SAFETY DIRECTOR.

  PROPER EQUIPMENT MUST BE AVAILABLE FOR THE WORST CASE POTENTIAL OF THE PERMIT SPACE.

B. Physical Hazards - Traditionally, the hazards of confined spaces have emphasized hazardous atmospheres, but there are also significant other risks to be considered during entry.

- Entry and Exit - The opening(s) for entry and exit often provide an area of significant limitation and is directly related to the potential hazard of the confined space. The depth of the space, size of opening, barriers within the space, size of the space, number of entrants, etc. are all factors.

- Mechanical - Any equipment or electrical source within the space can provide injury and needs to be manually isolated to prevent activation.

- Temperature Extremes - Extremely hot or cold temperature can present problems for workers. Because of the nature of confined spaces, ambient temperature, moisture content of the air, and radiant heat are difficult to control.

- Noise - Noise within a confined space can be amplified due to the size, design, and acoustics of the space. Excessive noise can not only cause hearing damage but can affect communication and hazard recognition.

- Slick/Wet Surfaces - Slips and fall can occur on a wet surface. Also, wet surfaces can increase the likelihood for and effect of electrical shock in areas where electric circuits, equipment and tools are used.

- Engulfment - Loose granular material stored in bins and hoppers such as grain, sand, coal, or similar loose material can crust over and break loose during work, engulfing and suffocating workers.

- Falling Objects - Workers in confined spaces should be mindful of the possibility of falling objects, especially important when work is being done above the entrance or near the entry/exit hole if vertical.

C. Special Hazards

Due to the nature of confined spaces, special hazards are developed whenever heat or hazardous materials are brought into the workspace. Any hot work (work involving burning, welding, cutting, or similar fire producing operations), as well as work which produces sources of ignition such as drilling, abrasive blasting and space heating may introduce the need for special planning and protection. Special requirements are set by OSHA for welding in confined spaces in 29 CFR 1910 (252)(d)(4). If welding is planned within a confined space, this standard will be reviewed, and requirements implemented.

HAZARDOUS WORK WHERE PROPER STAFFING, EQUIPMENT, OR TRAINING IS NOT AVAILABLE WILL BE CONTRACTED TO A QUALIFIED INDIVIDUAL OR COMPANY.

IV. **Initial Survey**

Using the decision flow chart tree included in Appendix F, *employees* must evaluate their workplaces to determine if confined spaces are present and if these spaces are permit-required. If no confined spaces are identified, the survey is documented, and no further action is necessary.

If confined spaces are identified, it must be determined if they are permit-required or non-permit required spaces. If spaces are determined to be non-permit spaces, the decision analysis leading to this finding is documented and no additional action is mandated. Non-permit spaces must be re-evaluated when there are changes in their use, configuration, or materials used or stored in the space.

If permit-required confined spaces are identified, the Safety Director will inform all employees of their existence, location, and dangers posed by the spaces. If permit spaces are not to be entered, effective measures to prevent entry must be implemented. This can be accomplished

by posting danger signs or by another equally effective means. The following signs will satisfy the requirement:

DANGER - PERMIT REQUIRED CONFINED SPACE
AUTHORIZED ENTRANTS ONLY
or
DANGER - PERMIT REQUIRED CONFINED SPACE
DO NOT ENTER

If employees are to enter permit-required spaces, a written program for permit-required confined spaces must be developed and implemented. This program must be made available to all employees.

If testing and inspection data is collected demonstrating the permit space does not pose an actual or potential hazard, permit required spaces may be reevaluated and reclassified as a non-permit space. A certificate including date, location of space, and the signature of the person making the certification and documenting the data must be made available to the employees entering the space.

Under certain conditions, alternative procedures may be used to streamline procedures for entry into permit spaces. If it can be demonstrated with monitoring and inspection data that the only hazard is an actual or potential hazardous atmosphere which can be made safe for entry by use of continuous forced air ventilation alone, they may be exempted from some requirements. Please refer to Section V.

V. **Confined Spaces Program**

Employers who determine that their employees will enter permit-required confined spaces must develop and implement a written confined spaces program for each confined space, which addresses the following points. Multiple spaces which are essentially identical may be grouped into one program.

- Permit space location
- Hazard identification
- Hazard control
- Measures to prevent unauthorized entry
- Acceptable entry conditions
- Lockout/Tagout and isolation procedures
- Ventilation procedures
- Entry coordination
- Permit system
- Equipment

- Employee duties
- Testing and monitoring
- Emergency procedures
- Other relevant information

THE PROGRAM MUST BE MADE AVAILABLE TO ALL EMPLOYEES.

VI. **Permit System**

The inherent dangers associated with confined spaces indicate the need for strict control measures of employees and equipment. OSHA has established that a permit system will be implemented for entrance into permit-required confined spaces, and entry shall be by permit only. The permit provides written authorization for entering and working in confined spaces clearly stating identified hazards as well as safety and work procedures.

The permit, signed by the Entry Supervisor, verifies that pre-entry preparations have been completed and that the space is safe to enter. This permit must be posted at the entrance and made available to all entrants and attendants before the space is entered. The Entry Supervisor must sign the permit before entry, but not before all actions and conditions necessary for safe entry have been met. The duration of entry permit must not exceed the time required to complete the assignment and may be no longer than one shift.

The Entry Supervisor must also terminate entry and cancel the permit when the assignment has been completed or when new conditions exist. The permit authorization will be terminated if conditions not included in the permit are encountered. At this time, there is a non-permitted condition and another permit must be issued when additional safeguards are in place. New conditions will be noted on the canceled permit and used in revising the permit space program. If materials are to be taken into or used within the space, applicable SDS sheet will be attached to the entry permit.

All permits are maintained for a period of one year and must be held until an annual review of the program is completed.

VII. **Equipment**

All staff working in permit spaces must be properly equipped to complete confined space work safely. The following equipment may be required:

- Testing and monitoring equipment to test for oxygen, flammable gases, and potential toxic atmospheres.
- Ventilation equipment needed to obtain and maintain acceptable entry conditions.
- Communication equipment necessary to enable the attendant to monitor activities within the space and alert entrants of the need to evacuate the space, if necessary.
- Personal protective equipment, including air purifying and air supplying respirators necessary to protect employees.

- Lighting equipment needed to permit employees to see well enough to work safely and to exit the space in an emergency. If flammable, this will need to be intrinsically safe and meet National Electrical Code Standards.

- Barriers and shields, as required to protect entrants from external hazards and to prevent accidental entry into the space.

- Equipment such as ladders needed for safe ingress and egress by authorized entrants.

- Rescue and emergency equipment, including equipment for entry and non-entry retrieval, to the extent that the equipment is provided by rescue services.

- Any other equipment necessary for safe entry into and rescue from permit spaces.

VIII. Normal Entry Procedures

A. **Authorization** - ensures an entry permit has been completed and the permit is currently active and valid for working conditions and tasks. Authorization to enter permit-required spaces, unless alternative methods are used, is by permit only. The permit is to be available at the confined space for recording entry conditions.

B. **Site Protection** - Set up work area barricades if protection is needed for the entrant and/or visitors and staff that may be near the space.

C. **Pre-Entry Review** - Conduct a pre-entry review of the work to be completed with the attendant discussing hazards that may be encountered, insuring that all necessary equipment and materials are available and are in proper working condition, and the communication system is set and clearly understood.

D. **Control of Hazardous Energy** - Work in confined spaces must meet lockout/tagout requirements to isolate lines which may convey flammable, injurious, or incapacitating substances or contain moving parts and machinery which could cause injury. A space that cannot be isolated must be treated as if it contained those substances. Lock-out/tagout procedures will be completed within the guidelines of the park's lockout/tagout program.

E. **Atmospheric Monitoring** - Atmospheric testing is required for two reasons; evaluation of the hazards within the confined space, and to verify that acceptable entry conditions for entry into the space exist. Confined spaces will be monitored by calibrated equipment. Initial testing is performed from outside of the space by remote probe with all levels of the space being tested. For potentially stratified atmospheres, the atmospheric envelope should be tested a distance of approximately four (4) feet in the direction of travel and to each side. A written record of the all tests shall be maintained on the entry permit.

NEVER TRUST YOUR SENSES. ALWAYS MONITOR WITH A CALIBRATED METER. YOUR FIRST WRONG GUESS COULD BE YOUR LAST.

F. **Ventilate the Space** - Environmental controls within the confined space are maintained by forced air ventilation by a portable blower, or multiple blowers, if needed. This is in addition to any vent or exhaust system that may be built into confined spaces.

Generally blowing into the space is more effective than exhausting. This normally consists of a pre-entry purge of several air changes and the continuous introduction of fresh air during occupancy. The ventilation of a confined space has the primary objectives of maintaining an oxygen level of at least 19.5 % oxygen and keeping "toxic" and flammable gases and vapors to within accepted levels prescribed by OSHA.

Place the blower into the opening, position the hose and purge the space prior to entry based on the attached charts. The most effective method of ventilating is the introduction of air at the bottom of the space with the discharge being from the opening at the top of the space.

If a hazardous atmosphere is detected after ventilation, continue ventilation and purge of the space. If atmospheric testing after purging continues to indicate a hazardous atmosphere, cancel the planned entry until the space permit and program are reviewed.

Blower operations should be continued while working in the space. The blower should be a minimum of five feet from the space. However, to prevent a loss of air delivery the blower should be set to minimize hose length and number of bends. For example, a 25-foot hose with one 90 degree bend can reduce air delivery by over 30 percent.

Special precautions must be taken with flammable atmospheres. Under certain conditions where flammable gases or vapors have displaced the oxygen levels but are too rich to burn, forced air ventilation may dilute them until they are within the explosive range.

G. **Set Up Retrieval System** - Install tripod or other retrieval system and safety line. A retrieval system will be used for all permit required entries unless it can be determined that it will create additional hazards to the entrant.

H. **Entry Testing** - Test the space just prior to entering. All tests are recorded on the permit.

I. **Entry and Work** - Entry will be made with all permit required conditions in effect, including personal protective equipment. An attendant will be stationed for all permit-required entries, the blower will remain in operation, and the space atmosphere will be periodically monitored. All readings will be recorded on the permit. If the space is vacated for any significant period of time, such as lunch break, it will be retested prior to entering.

If at any time, conditions change from the original entry permit, the space will be vacated immediately. The entrant will also vacate the space immediately, without question, if notified by the attendant to leave the space.

J. **Exit** - Upon exiting the space, the permit will be completed and canceled by filing it in the confined spaces file.

IX. Alternative Protection Procedures

Streamlined entry procedures are allowed for permit-required confined spaces where it can be determined that the only hazard is atmospheric, and the ventilation alone can control the hazard. If the following conditions are met, the entry permit, standby attendant, and rescue provisions of the standard are not required.

- Ensure it is safe to remove the cover.
- Demonstrate through monitoring and inspection data that the only hazard posed by the permit space is actual or potential hazardous atmosphere.
- Demonstrate through monitoring and testing data that continuous forced air ventilation alone is sufficient to maintain safe permit space.
- No hazards are introduced into the space, from the work to be completed.
- Document determinations in a written certificate with monitoring and inspection data and make the determinations and data available to employees.

If these conditions are met, no formal written program is required, and the following requirements act as a substitute program. With alternative procedures, attendant and rescue provisions of permit-required spaces do not apply.

- Any conditions which may make it unsafe to remove an entrance cover must be eliminated prior to removing the cover.

- When entrance covers are removed, the opening shall be promptly guarded by railing, temporary cover, or other temporary barrier that will prevent an accidental fall through the opening and that will protect the employee working within the space.

- Before an employee enters the space, the internal atmosphere shall be tested with a calibrated direct-reading instrument, for the following conditions in the given order:

    - Oxygen content

    - Flammable gases and vapors, and

    - Potential Toxic air contaminants

- There may be no hazardous atmosphere within the space whenever any employee is inside the space.

- Continuous forced air ventilation shall be used, as follows:

    - An employee may not enter the space until the forced air ventilation has eliminated any hazardous atmosphere.

    - The forced air ventilation shall be so directed as to ventilate the immediate areas where any employee is or will be present within the space and shall continue until all employees have left the space, and the work has completed.

    - The air supply for the forced air ventilation shall be from a clean source and may not increase the hazards in the space. NEVER USE PURE OXYGEN TO VENTILATE SPACES.

- The atmosphere in the space shall be periodically (5 to 10 minutes) tested as necessary to ensure that the continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere.

- If hazardous atmosphere is detected during entry:

    - each employee shall leave the space immediately,

- the space shall be evaluated to determine how the hazardous atmosphere developed; and

- measures shall be implemented to protect employees from the hazardous atmosphere before any subsequent entry takes place.

- The employer shall verify that the space is safe for entry and that the measures required by the standard have been met, through a written certificate that contains the date, location of the space, and the signature of the person providing the certification. The certification shall be made before entry and shall be made available to each employee.

  IF ENTRY OF THE PERMIT SPACE IS NECESSARY TO OBTAIN THE NECESSARY DATA, THESE ENTRIES MUST BE PERFORMED WITH FULL PERMITTED COMPLIANCE.

X. Training

Training is an essential component of safe Confined Space entry. OSHA has noted inadequate training was an important factor in virtually all of the incidents and thus requires the training of all Confined Space staff to perform their duties safely.

Before initial work assignments in Confined Spaces, proper training must be provided for all workers who are required to work in Confined Spaces, ensuring that employees have acquired the understanding, knowledge, and skills necessary for the safe performance of their duties. Training programs will include procedural/practice drills and periodic refresher programs.

Additional or refresher training is required when job duties change, there is a change in the permit space that presents a hazard about which an employee has not previously been trained, or whenever there is reason to believe either that there are deviations from the permit space entry procedures required by the standard or that there are inadequacies in the employee's knowledge or use of the procedures. The training shall establish an employee's proficiency in their duties as noted in Section XI. Upon completion, employees must receive certification of training that included the employee's name, signature or initials of trainer(s), and dates of training. The certification must be made available for inspection by employees and their authorized representatives.

All training will be documented and maintained in the confined spaces file.

XI. Duties

A. Entry Supervisor Duties - The Entry Supervisor is the person responsible for determining if acceptable entry conditions are present at the permit space where entry is planned, for authorizing entry, for overseeing operations during entry, and for terminating operations when required. The entry supervisor may also be an authorized entrant.

- Know space hazards, including information on the mode of exposure, signs and symptoms, and consequences of exposure.

- Verify that all tests specified by the permit have been conducted, and that all procedures and equipment specified by the permit are in place, before endorsing the permit and allowing entry to begin.

- Ensure that entry operations remain consistent with the entry permit and that acceptable entry conditions are maintained.

- Remove unauthorized persons who enter or attempt to enter permit spaces during operations.

- Terminate entry and cancel permits when entry operations are completed, or if conditions change.

- Verify that rescue services are available and the means for summoning them are operable.

B. **Authorized Entrant Duties** - The authorized entrant is the person who is authorized to enter a permit space.

- Know space hazards, including information on mode of exposure, signs and symptoms, and consequences of exposure.

- Proper use of all equipment, including personal protective equipment.

- Maintain communications (i.e.: telephone, radio, visual observation) with attendants, to enable the attendant to monitor the entrant's status, as well as to alert the entrant to evacuate.

- Alert the attendant when a prohibited condition exists or when warning signs or symptoms of exposure exist.

- Exit from the permit space as quickly as possible whenever:

    - Order to evacuate is given by attendant or entry supervisor.

    - Entrant recognizes any warning sign or symptom of exposure to a dangerous condition/situation.

    - Entrant detects a prohibited condition; or

    - Evacuation alarm is activated.

C. **Attendant Duties** - The attendant means an individual stationed outside one or more permit spaces who monitors the authorized entrants as listed on the permit space program.

- Knowing existing and potential hazards, including information on the mode of exposure, signs and symptoms, consequences of the exposure and their physiological effects.

    - Remain outside permit space during entry operations unless relieved by another authorized attendant.

    - Maintain communication with entrants, as necessary to monitor entrant status and to alert entrants of the need to evacuate the space if necessary and keep an accurate account of those workers entering the permit-required confined space.

    - Monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space and order the authorized entrants to evacuate the permit space immediately under any of the following conditions:

        - If the attendant detects a prohibited condition,

        - Detects the behavioral effects of the hazard exposure in an authorized entrant.

        - Detects a situation outside the space that could endanger the authorized entrants; or

        - Cannot effectively and safely perform all of the required duties of the attendant.

    - Prevent unauthorized persons from approaching or entering permit-required confined spaces. If unauthorized persons do not vacate area or enter the space, informs entrants and Entry supervisor.

    - Perform non-entry rescue, per employer's procedures and/or summons rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit space hazards. The attendant may be part of the rescue team, but only if trained in rescue techniques AND relieved by another trained and authorized attendant.

    - Perform no duties that might interfere with their primary duty to monitor and protect authorized entrants.

XII. Rescue Services

The safest and primary means of rescue when space conditions begin to deteriorate is self-rescue, when the entrant evacuates the space with the first sign of trouble. It is safe practice to wear an emergency breathing system, sometimes called an egress or emergency bottle, whenever entering a permit space.

If self-rescue is not possible, the next best option is non-entry rescue. For non-entry rescue, a retrieval system shall be used whenever entry is made, unless it can be demonstrated that the retrieval equipment would increase overall risk of entry or would not be of value. Mechanical devices shall be used to retrieve personnel from vertical type permit-required spaces more than 5 feet deep. Each entrant into a permit-required confined space shall use a full body harness with retrieval line attached at the center of their back near shoulder level, or above their head. Wristlets may be used in lieu of the chest or full body harness if the employer can show that use of a chest or body harness is infeasible or creates a greater hazard and that use of wristlets is the safest and most effective alternative. The other end of the retrieval line shall be attached to a mechanical device or a fixed point outside permit space for immediate use.

The last option is entry rescue by a rescue team. Either on-site or off-site rescue teams may be used. On-site rescue teams have the advantage of being immediately available and intimately familiar with the facility. However, staff, equipment, and funds may not be available to develop an on-site rescue team.

If an on-site rescue team is used, the following requirements apply:

- Each member of the rescue service shall be trained to perform the assigned rescue duties. Each member of the rescue service shall also receive training required of authorized entrants.

- The employer shall ensure each member of the rescue service is provided with and is trained to properly use the personal protective equipment and rescue equipment necessary for making rescues from permit-required spaces.

- Each member of the rescue service shall practice making permit-required space rescues at least once every 12 months, by means of simulated rescue operations in which they remove dummies, mannequins, or actual persons from the actual or representative permit-required spaces.

- The employer shall ensure that at least one member of the rescue team or service holds a current certification in Cardio-Pulmonary Resuscitation (CPR) and basic First Aid.

  When an employer arranges to have persons other than its employees perform permit-required space rescue, the host employer shall:

- Develop and implement procedures for summoning rescue and emergency services, for rescuing entrants from permit-required spaces, for providing necessary emergency services to rescued employees, and for preventing unauthorized personnel for attempting a rescue,

- Inform the rescue service of the hazards they may confront when called on to perform rescue at the host employers facility, and

- Provide the rescue service with access to all permit spaces from which rescue may be necessary so that the rescue service can develop appropriate rescue plans and practice rescue operations.

  About 2.1 million workers enter permit-required confined spaces annually. According to the National Institute for Occupational Safety and Health (NIOSH), approximately 60 percent of confined-space fatalities are rescuers, and the Occupational Safety and Health Administration (OSHA) reported that when multiple deaths occur during a rescue, the majority of the victims are "would-be" rescuers.

  IF THE POTENTIAL FOR ATMOSPHERIC HAZARDS CAN NOT BE POSITIVELY ELIMINATED BY TESTING, ENTRY MUST BE COMPLETED AS IF THE SPACE IS AN IMMEDIATE DANGER TO LIFE AND HEALTH (IDLH) AND A SELF-CONTAINED BREATHING APPARATUS (SCBA) MUST BE USED.

XIII. Outside Contractors

When a contractor is contracted to perform work that involves permit space entry, the host employer (Division) shall:

- Advise contractors when the space is a permit-required space.

- Share with the contractor any information concerning the space.

- Inform contractors that they must comply with a permit-required confined space entry program which meets the requirements of the standard.

- Coordinate entry operations when employees of more than one employer will be working in the space simultaneously, preventing employees of different employers from endangering each other.

- Complete a debriefing session at the end of the job to discuss any hazards encountered during the entry.

Contractors are obligated to:

- Obtain from the host employer any available information regarding permit-required space hazards and entry operations.

- Coordinate entry operations with the employer when both the host's and the contractor's workers will work in or near the permit-required space.

- Inform the employer of the contents of the permit program that will be used to comply with the standard.

- Advise the host employer of any hazards encountered in the permit-required space. This can be done either when the hazards arise or at the debriefing session.

XIV. Designation of Responsibilities

Park Supervisors shall designate responsible persons(s) for all duties associated with permit-required space entries and maintain a list of all qualified personnel.

XV. Record Keeping

A written record of all training, including safety drills, entry logs and permits, inspections, annual program reviews, maintenance of equipment, injuries, and other program information will be maintained at the park office.

HAZARDOUS WASTE

I. **Introduction**

A hazardous waste is any solid, liquid or contained gaseous material that is no longer used and is either recycled, thrown away, or stored.

Through routine custodial or maintenance duties, a park may generate wastes that can cause serious problems if not handled and disposed of properly. Such wastes could cause injury or death, or damage and pollute land, air, or water.

These wastes are considered **hazardous**, and they are currently regulated by federal and state public health and environmental safety laws.

There are two ways waste may be brought into the hazardous waste regulatory system: **listing,** and identification through **characteristics.**

II. **Listed Wastes**

A waste is considered hazardous if it appears on any of the four lists of hazardous wastes contained in the Resource Conservation or Recovery Act regulations. These wastes have been

listed because they either exhibit one or more characteristics described below or contain any number of toxic constituents that are harmful to health and the environment. The regulations list over 400 hazardous wastes, including wastes derived from manufacturing processes and discarded commercial chemical products. Many listed hazardous wastes that you are likely to generate are included in Appendix B of this handbook.

III. **Characteristic Wastes**

Even if a waste does not appear on an EPA list, it is considered hazardous if it has one or more of the following characteristics:

- It is easily combustible or flammable. This is called an **ignitable** waste. Examples include paint wastes, certain degreasers, or other solvents.

- It dissolves metals, other materials, or burns the skin. This is called **corrosive** waste. Examples include waste rust removers, waste acid or alkaline cleaning fluids, and waste battery acid.

- It is unstable or undergoes rapid or violent chemical reaction with water or other materials. This is called a **reactive** waste. Examples include cyanide plating wastes, waste bleaches, and other waste oxidizers.

- A waste sample is tested and shows EP (extraction procedure) toxicity. Wastes are EP toxic if an extract from the waste is tested and found to contain high concentrations of heavy metals (such as mercury, cadmium, selenium or lead) or specific pesticides that could be released into the ground water.

The park may generate other hazardous wastes beyond the examples mentioned above. It is your responsibility to decide whether your wastes are hazardous. If you need assistance, please contact:

Nevada Division of Environmental Protection
Bureau of Waste Management
901 S Stewart St. Ste. 4001, 4th Floor
Carson City, NV 89701
775-687-9462
http://ndep.nv.gov/BWM/

IV. Acutely Hazardous Waste

Some wastes are considered "acutely hazardous." These are wastes the EPA has determined to be so dangerous in small amounts that they are regulated the same way as are large amounts of other hazardous wastes. Acutely hazardous wastes, for example, may be generated using certain pesticides. They also include dioxin-containing wastes.

Wastes that appear in Appendix B with an asterisk (*) have been designated acutely hazardous. If your operation generates more than 1 kilogram (approximately 2.2 pounds) of acutely hazardous waste in a calendar month or stores more than the amount for any period, you are subject to all of the regulations that apply to generators that generate more than 1000 kilograms of hazardous waste per calendar month. For more information about acutely hazardous waste, contact the Nevada Division of Environmental Protection.

Park operations typically generate the following types of hazardous waste:

- Building Cleaning and Maintenance - acids/bases, solvents.
- Construction - acids/bases, ignitable waste, solvents.
- Equipment repair - acids/bases, ignitable waste, solvents.
- Vehicle Maintenance - acids/bases, heavy metals/ignitable wastes, lead-acid batteries, solvents.

V. Small Quantity Generator of Hazardous Waste

Each park which generates less than 220 lbs. or 25 gallons of hazardous waste per month or 2 lbs. of acutely hazardous waste, as such, is exempt from most of the measures imposed on larger generators. Federal law requires:

- Identification of all hazardous waste generated.
- Sending this waste to a hazardous waste facility or other facility approved by the State.
- Never accumulating more than 2,200 lbs. of hazardous waste.

VI. Counting Hazardous Waste

Count all quantities of "listed" and characteristics of hazardous waste. Do not count waste that:

- Is specifically exempt such as spent lead-acid batteries that will be sent off-site for reclamation or used oil that has not been mixed with hazardous waste.
- May be left in the bottom of completely emptied containers.

VII. Managing Hazardous Waste

Even small quantities of hazardous waste should be properly disposed of with a minimum of storage time. You can store hazardous waste in 55-gallon drums or other containers suitable for the type of waste generated, if you follow certain common sense rules that are meant to protect human health and the environment, and reduce the likelihood of damages or injuries caused by leaks or spills of hazardous waste.

If you store hazardous waste in containers, you must do the following:

- Clearly mark each container with the words **"HAZARDOUS WASTE,"** with the date you begin to collect waste in that container.

- Keep containers in good condition. Handle them properly and replace any leaking containers immediately.

- Do not store hazardous waste in a container if it may rupture, or cause leaks, corrosion, or other failure of the container.

- Keep containers closed unless you are filling or emptying them.

- Inspect the container for leaks or corrosion every week.

- Make sure that if you are storing ignitable or reactive wastes, containers are placed as far as possible from your facilities to create a buffer zone.
- **NEVER** store wastes that could react together to cause fires, leaks, or other releases.
- Make sure the stored waste is taken off-site or treated on-site with minimal storage time as possible.

VIII. Hazardous Waste Disposal

Do not dispose of hazardous waste on your site unless you have obtained a disposal permit. For more information concerning waste that may be disposed of in this manner, contact your local wastewater or sewage treatment office or the state hazardous waste management agency.

IX. Waste Management

Good management of hazardous waste can be thought of simply as using **"good housekeeping"** practices such as using and reusing materials as much as possible; recycling or reclaiming waste; treating waste to reduce its hazards; or reducing the amount of waste you generate. To reduce the amount of waste you generate:

- Do not mix nonhazardous waste with hazardous waste. For example, if you put nonhazardous cleaning agents or rags in the same container as a hazardous solvent, the entire container becomes subject to the hazardous waste regulations.

- Avoid mixing different hazardous wastes. Doing so may be hazardous and make recycling difficult or make disposal more expensive.
- Make sure the original containers of hazardous products are completely empty before you throw them away. Use **ALL** of the product and follow the guidelines on the label for disposal of the emptied container.

Another aspect of **"good housekeeping"** is cooperating with inspection agencies and using a visit by an inspector as an opportunity to identify and correct problems. Accompanying state or local inspectors on the tour of your facility will give you the opportunity to ask questions you may have and receive advice on more effective ways of handling hazardous material. In addition, guiding the inspectors through the property and explaining your operations may help them be more sensitive to particular problems or needs. Inspectors also can serve as valuable resources of information on record keeping and safety requirements specific to your facility.

X. Inspections

The best way to prepare for a visit from an inspector is to conduct a self-inspection. This chapter can serve as a basic guide to developing a self-inspection check list. Make sure you can correctly answer the following questions, and make sure you have met the requirements:

- Do you have documentation on the **AMOUNTS** and **KINDS** of hazardous waste you generate and on how you determined that they are hazardous?

- Do you **SHIP** waste **OFF-SITE**? If so, by which **HAULER** and to which **DESIGNATED HAZARDOUS WASTE FACILITY**?

- Do you have copies of **MANIFESTS** used to ship your hazardous waste off-site? Are they filled out correctly? Have they been signed by the designated facility?

- Is your hazardous waste stored in the **PROPER CONTAINERS**?

- Are containers properly **DATED** and **MARKED**?

- Have you designated an **EMERGENCY COORDINATOR**?

- Are your **EMPLOYEES** thoroughly **FAMILIAR** with proper waste handling and emergency procedures?

- Are your employees equipped with the appropriate Personal Protective Equipment (PPE)?

XI. Accident Prevention

Whenever you generate hazardous waste and store it on-site, you must take the precautions and steps necessary to prevent any sudden or accidental release to the environment. This means that you must carefully operate and maintain your facility to reduce the possibilities of fire, explosion, or release of hazardous waste. It is best to avoid keeping these wastes on-site.

Your facility must have appropriate types of emergency communication and fire equipment for the kinds of waste handled. You also must attempt to arrange with local fire, police, or hospital officials as needed to ensure they can respond to any potential emergencies that could arise. Some steps you may need to take to prepare for emergencies at your facility include:

- Installing and maintaining emergency equipment such as an alarm, a telephone or a two-way portable radio, fire extinguishers (using water, foam, inert gas, or dry chemicals as appropriate to your waste type), hoses, automatic sprinklers, or spray equipment so it is immediately available to your employees if there is an emergency.

- Providing enough room for emergency equipment and response teams to get into any area in your facility in an emergency.

- Contact your local fire, police, and hospital officials or state or local emergency response teams. Explain the types of wastes you handle and request they visit the site and provide suggestions in handling the different types of wastes and handling emergency situations.

APPENDIX A - SAFETY ACKNOWLEDGEMENT, INSPECTION AND TRAINING FORMS

Acknowledgment of Receipt of Safety Manual Form
Stop Work Authority Tailgate Form
Personal Protective Equipment Hazard Assessment Certification
Workplace Inspection Checklist
On the Job Training Form
Job Safety Analysis Form
Driving Test Form
Monthly Safety Equipment Inspection

Acknowledgment of Receipt Of Safety Manual

My signature below indicates that I have received a copy of the Nevada State Park Employee's Guide to Workplace Health and Safety.

I understand that this manual contains information regarding Nevada State Park's safety rules, practices, and possible discipline actions which affect me as an employee.

I acknowledge that I have read and understood Nevada State Parks Safety policies and programs.

I also understand that Nevada State Parks may revise, supplement or rescind policies, procedures or benefits described in the manual.

Print Name: _____

Signature: _____

Date: _____

Stop Work Authority Tool Box Form

Toolbox Meeting Form

Topic: Stop Work Authority & Safety Culture	Date/Time:
Number in Crew:	Number Attending:

Safety Discussion Topics:	Have Each Attendee Print and Sign His/Her Name
1. In your opinion, what areas can we improve safety in your workplace?	
2. What do you feel is the biggest hazard in your workplace? and do you know how to handle it or who to ask for help (please explain)?	
3. What training(s) would help you do your job safer?	

Additional Comments: Reviewed Stop work Authority Safety Stand-down including training, stop, notify, correct and resume procedures.

Toolbox meeting discussion leader (please print and sign):

Personal Protective Equipment Hazard Assessment Certification

Workplace Location: _____ **Date:** _____

Department: _____ **Assessment Conducted by:** _____

Signature: _____

Task, Job, or Workstation	Potential Hazards	PPE Required

Workplace Inspection Checklist				
Is the required OSHA Job Safety and Health Protection Poster displayed in a prominent location where all employees are likely to see it?	Yes	No	NA	Comments
Are Safety Data Sheets (SDSs) been posted or otherwise made readily available to affected employees?				
Are signs concerning evacuation exit signs posted where appropriate?				
Is the Summary of Work-Related Injuries and Illnesses (OSHA Form 300A) posted during the months of February, March and April?				
Training				
Are employee training records kept and accessible for review by employees, as required by OSHA standards?				
Are operating permits, fire marshal, tanks				
First Aid Medical				
Is there a hospital, clinic, or infirmary for medical care near your workplace or is at least one employee on each shift currently qualified to render first aid?				
Are fully supplied first aid kits easily accessible to each work area, periodically inspected and replenished as needed?				
Is there an eye-wash station available for quick drenching or flushing of the eyes and body in areas where corrosive liquids or materials are handled?				
Fire Protection				
If you have a fire alarm system, is it certified as required and tested annually?				
Are automatic sprinkler system water control valves, air and water pressure checked periodically as required?				
Is the maintenance of automatic sprinkler systems assigned to responsible persons or to a sprinkler contractor?				
Is proper clearance maintained below sprinkler heads?				
Are portable fire extinguishers provided in adequate number and type and mounted in readily accessible locations?				
Are fire extinguishers recharged regularly with this noted on the inspection tag?				
Are employees periodically instructed in the use of fire extinguishers and fire protection procedures?				
PPE				
Has the employer determined whether hazards that require the use of PPE (e.g., head, eye, face, hand, or foot protection) are present or are likely to be present?				
Have both the employer and the employees been trained on PPE procedures, i.e., what PPE is necessary for job				

tasks, when workers need it, and how to properly wear and adjust it? Are protective goggles or face shields provided and worn where there is any danger of flying particles or corrosive materials?				
Are approved safety glasses required to be worn at all times in areas where there is a risk of eye injuries such as punctures, abrasions, contusions, or burns?				
Is all PPE maintained in a sanitary condition and ready for use?				
Is protection against the effects of occupational noise provided when sound levels exceed those of the OSHA Noise standard?				
Are adequate work procedures, PPE and other equipment provided and used when cleaning up spilled hazardous materials?				
Are appropriate procedures in place to dispose of or decontaminate PPE contaminated with, or reasonably anticipated to be contaminated with, blood or other potentially infectious materials?				
General Work Environment				
Are all worksites clean, sanitary and orderly?				
Are work surfaces kept dry and appropriate means taken to assure the surfaces are slip-resistant?				
Is combustible scrap, debris and waste stored safely and removed from the worksite promptly?				
Is metallic or conductive dust prevented from entering or accumulating on or around electrical enclosures or equipment?				
Are covered metal waste cans used for oily or paint-soaked waste?				
Are all work areas adequately illuminated?				
Are pits and floor openings covered or otherwise guarded?				
Have all confined spaces been evaluated for compliance with 29 CFR 1910.146? (Permit required confined spaces.)				
Walkways				
Are aisles and passageways kept clear and marked as appropriate?				
Is there safe clearance for walking in aisles where motorized or mechanical handling equipment is operating?				
Are spilled materials cleaned up immediately?				
Are changes of direction or elevations readily identifiable?				

Are standard guardrails provided wherever aisle or walkway surfaces are elevated more than 30 inches (76.20 centimeters) above any adjacent floor or the ground?				
Are toe boards installed around the edges of permanent floor openings where persons may pass below the opening?				
Are unused portions of service pits and pits not in use either covered or protected by guardrails or equivalent?				
Stairs				
Do standard stair rails or handrails on all stairways have at least four risers?				
Are all stairways at least 22 inches (55.88 centimeters) wide?				
Are steps slip-resistant?				
Are stairway handrails located between 30 inches (76.20 centimeters) and 34 inches (86.36 centimeters) above the leading edge of stair treads? And 3” from wall?				
Exits				
Are all exits marked with an exit sign and illuminated by a reliable light source?				
Are doors, passageways or stairways that are neither exits nor access to exits, but could be mistaken for exits, appropriately marked "NOT AN EXIT," "TO BASEMENT," "STOREROOM," etc.?				
Are exit doors side-hinged? And free from obstructions?				
Are exit doors able to be opened from the direction of exit travel without the use of a key or any special knowledge or effort when the building is occupied?				
Ladders				
Are all ladders maintained in good condition, joints between steps and side rails tight, all hardware and fittings securely attached, and moveable parts operating freely without binding or undue play?				
Are non-slip safety feet provided on each metal or rung ladder, and are ladder rungs and steps free of grease and oil?				
Are employees prohibited from placing ladders on boxes, barrels, or other unstable bases to obtain additional height?				
When portable rung ladders are used to gain access to elevated platforms, roofs, etc., does the ladder always extend at least 3 feet (0.9144 meters) above the elevated surface?				

Are portable metal ladders legibly marked with signs reading "CAUTION - Do Not Use Around Electrical Equipment" or equivalent wording?				
Are the rungs of ladders uniformly spaced at 12 inches (30.48 centimeters) center to center?				
Hand tools				
Are all tools and equipment (both company and employee-owned) used at the workplace in good condition?				
Are broken or fractured handles on hammers, axes and similar equipment replaced promptly?				
Are employees aware of hazards caused by faulty or improperly used hand tools?				
Are jacks checked periodically to ensure they are in good operating condition?				
Power Tools				
Are grinders, saws and similar equipment provided with appropriate safety guards?				
Are portable circular saws equipped with guards above and below the base shoe?				
Are rotating or moving parts of equipment guarded to prevent physical contact?				
Are all cord-connected, electrically operated tools and equipment effectively grounded or of the approved double insulated type?				
Are pneumatic and hydraulic hoses on powder-operated tools checked regularly for deterioration or damage?				
Is sufficient clearance provided around and between machines to allow for safe operations, set up and servicing, material handling and waste removal?				
Abrasive Wheel Equip				
Do side guards cover the spindle, nut and flange and 75 percent of the wheel diameter?				
Are goggles or face shields always worn when grinding?				
Does each grinder have an individual on and off control switch?				
Is cleanliness maintained around grinders?				
Lockout/tagout				
Are appropriate employees provided with individually keyed personal safety locks?				
Is it required that only the employee exposed to the hazard can place or remove the safety lock?				
Is there a means provided to identify any or all employees who are working on locked-out equipment by their locks or accompanying tags?				
Are employees properly trained on loto procedures?				
Has loto policy been reviewed?				

Are appropriate employees provided with individually keyed personal safety locks?				
Is it required that only the employee exposed to the hazard can place or remove the safety lock?				
Is it required that employees check the safety of the lockout by attempting a startup after making sure no one is exposed?				
Are a sufficient number of accident prevention signs or tags and safety padlocks provided for any reasonably foreseeable repair emergency?				
Welding				
Are only authorized and trained personnel permitted to use welding, cutting, or brazing equipment?				
Are compressed gas cylinders regularly examined for obvious signs of defects, deep rusting, or leakage?				
Are precautions taken to prevent the mixture of air or oxygen with flammable gases, except at a burner or in a standard torch?				
Are empty cylinders appropriately marked and their valves closed?				
Are signs posted reading "DANGER, NO SMOKING, MATCHES, OR OPEN LIGHTS," or the equivalent?				
Are cylinders, cylinder valves, couplings, regulators, hoses and apparatuses kept free of oily or greasy substances?				
Do cylinders without fixed wheels have keys, handles, or non-adjustable wrenches on stem valves when in service?				
Are electrodes removed from the holders when not in use?				
Are work and electrode lead cables frequently inspected for wear and damage, and replaced when needed?				
Are cable connectors adequately insulated?				
Are used drums, barrels, tanks and other containers thoroughly cleaned of substances that could explode, ignite, or produce toxic vapors before hot work begins?				
Do eye protection, helmets, hand shields and goggles meet appropriate standards?				
When working in confined places, are environmental monitoring tests done and means provided for quick removal of welders in case of an emergency?				
Compressors and Compressed Air				
Are compressors equipped with pressure relief valves and pressure gauges?				
Are air filters installed on the compressor intake?				
Are safety devices on compressed air systems checked frequently?				
Is the belt drive system totally enclosed to provide protection for the front, back, top and sides?				
When compressed air is used to inflate auto tires, are a clip-on chuck and an inline regulator preset to 40 psi required?				
When compressed air is used to clean clothing, are employees trained to reduce the pressure to less than 10 pounds per square inch (psi)?				

Compress Gas Cylinders				
Are cylinders with a water weight capacity over 30 pounds (13.6 kilograms) equipped with a means to connect a valve protector device, or with a collar or recess to protect the valve?				
Are cylinders legibly marked to clearly identify the type of gas?				
Are compressed gas cylinders stored in areas protected from external heat sources such as flame impingement, intense radiant heat, electric arcs, or high-temperature lines?				
Are cylinders located or stored in areas where they will not be damaged by passing or falling objects or subject to tampering by unauthorized persons?				
Are cylinders stored or transported in a manner to prevent them from creating a hazard by tipping, falling, or rolling?				
Are valve protectors always placed on cylinders when the cylinders are not in use or connected for use?				
Are all valves closed off before a cylinder is moved, when the cylinder is empty and at the completion of each job?				
Hoist and Auxiliary Equip				
Is each overhead electric hoist equipped with a limit device to stop the hook at its highest and lowest point of safe travel?				
Will each hoist automatically stop and hold any load up to 125 percent of its rated load if its actuating force is removed?				
Is the rated load of each hoist legibly marked and visible to the operator?				
Are the controls of hoists plainly marked to indicate the direction of travel or motion?				
Are employees prohibited from using chains or rope slings that are kinked or twisted and prohibited from using the hoist rope or chain wrapped around the load as a substitute for a sling?				
Forklift				
Are employees properly trained in the use of the type of industrial truck they operate?				
Are only trained personnel allowed to operate industrial trucks?				
Is directional lighting provided on each industrial truck in working order?				
Does each industrial truck have a warning horn, whistle, gong, or other device that can be clearly heard above normal noise in the areas where it is operated?				
Are the brakes on each industrial truck capable of bringing the vehicle to a complete and safe stop when fully loaded?				
Are industrial trucks with internal combustion engines that are operated in buildings or enclosed areas carefully checked to ensure that such operations do not cause harmful concentrations of dangerous gases or fumes?				
Are trucks in good working order				

Entering Confined Spaces				
Are confined spaces thoroughly emptied of any corrosive or hazardous substances, such as acids or caustics, before entry?				
Is either natural or mechanical ventilation provided prior to confined space entry?				
Are appropriate atmospheric tests performed to check for oxygen deficiency, toxic substances and explosive concentrations in the confined space before entry?				
Is the atmosphere inside the confined space frequently tested or continuously monitored during work?				
Is there a trained and equipped standby employee positioned outside the confined space, whose sole responsibility is to watch the work in progress, sound an alarm if necessary and render assistance?				
Is all portable electrical equipment used inside confined spaces either grounded and insulated or equipped with ground fault protection?				
Before gas welding or burning is started in a confined space, are hoses checked for leaks, torches lighted only outside the confined area and the confined area tested for an explosive atmosphere each time before a lighted torch is taken into the confined space?				
Are they all marked?				
Environmental Controls				
Are all work areas properly illuminated?				
If you use ear protectors, are employees properly fitted and instructed in their use?				
Are eye-wash fountains and safety showers provided in areas where corrosive chemicals are handled?				
Are employees instructed in proper first aid and other emergency procedures?				
Are employees aware of the hazards involved with the various chemicals they may be exposed to in their work environment, such as ammonia, chlorine, epoxies, caustics, etc.?				
Is the work area ventilation system appropriate for the work performed?				
Is employee exposure to welding fumes controlled by ventilation, use of respirators, exposure time limits, or other means?				
Are welders and other nearby workers provided with flash shields during welding operations?				
Are wet methods used, when practicable, to prevent the emission of airborne asbestos fibers, silica dust and similar hazardous materials?				
Are proper methods used to clean up rodent infested areas to prevent hantavirus?				
Is PPE provided, used and maintained wherever required?				
Are all outlets for water that is not suitable for drinking clearly identified?				
Are employees working on streets and roadways who are				

exposed to the hazards of traffic required to wear bright colored (traffic orange) warning vests?				
Are universal precautions observed where occupational exposure to blood or other potentially infectious materials can occur and in all instances where differentiation of types of body fluids or potentially infectious materials is difficult or impossible?				
Flammable and Combustible				
Are combustible scrap, debris and waste materials (oily rags, etc.) stored in covered metal receptacles and promptly removed from the worksite?				
Is proper storage practiced to minimize the risk of fire, including spontaneous combustion				
Are approved containers and tanks used to store and handle flammable and combustible liquids?				
Are all flammable liquids kept in closed containers when not in use (e.g., parts cleaning tanks, pans, etc.)?				
Are bulk drums of flammable liquids grounded and bonded to containers during dispensing?				
Do storage rooms for flammable and combustible liquids have explosion-proof lights and mechanical or gravity ventilation?				
Is liquefied petroleum gas stored, handled and used in accordance with safe practices and standards?				
Are "NO SMOKING" signs posted on liquefied petroleum gas tanks and in areas where flammable or combustible materials are used or stored?				
Are liquefied petroleum storage tanks guarded to prevent damage from vehicles?				
Are fire extinguishers selected and provided for the types of materials in the areas where they are to be used? Class A - Ordinary combustible material fires. Class B - Flammable liquid, gas or grease fires. Class C - Energized-electrical equipment fires.				
Are appropriate fire extinguishers mounted within 75 feet (22.86 meters) of outside areas containing flammable liquids and within 10 feet (3.048 meters) of any inside storage area for such materials?				
Are extinguishers free from obstructions or blockage?				
Are all extinguishers serviced, maintained and tagged at intervals not to exceed one year?				
Are all spills of flammable or combustible liquids cleaned up promptly?				
Are eye-wash fountains and safety showers provided in areas where corrosive chemicals are handled?				
Are employees prohibited from eating in areas where hazardous chemicals are present?				
Is there a list of hazardous substances used in your				

workplace and an SDS readily available for each hazardous substance used?				
Is there an employee training program for hazardous substances that includes: ▪ an explanation of what an SDS is and how to use and obtain one; ▪ SDS contents for each hazardous substance or class of substances; ▪ explanation of "A Right to Know"; ▪ identification of where an employee can see the written hazard communication program; ▪ location of physical and health hazards in particular work areas and the specific protective measures to be used; and ▪ details of the hazard communication program, including how to use the labeling system and SDSs.				
Does the employee training program on the bloodborne pathogens standard contain the following elements: ▪ an accessible copy of the standard and an explanation of its contents; ▪ a general explanation of the epidemiology and symptoms of blood borne diseases; ▪ an explanation of the modes of transmission of Blood borne Pathogens; ▪ an explanation of the employer's exposure control plan and the means by which employees can obtain a copy of the written plan; ▪ an explanation of the appropriate methods for recognizing tasks and the other activities that may involve exposure to blood and other potentially infectious materials; ▪ an explanation of the use and limitations of methods that will prevent or reduce exposure, including appropriate engineering controls, work practices and PPE; ▪ information on the types, proper use, location, removal, handling, decontamination and disposal of PPE; ▪ an explanation of the basis for selection of PPE; ▪ information on the hepatitis B vaccine; ▪ information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials; ▪ an explanation of the procedure to follow if an exposure incident occurs, including the methods of reporting the incident and the medical follow-up that will be made available; ▪ information on post-exposure evaluations and follow-up; and				

▪ an explanation of signs, labels and color coding.				
Electrical				
When electrical equipment or lines are to be serviced, maintained, or adjusted, are necessary switches opened, locked out or tagged, whenever possible?				
Are portable electrical tools and equipment grounded or of the double insulated type?				
Are exposed wiring and cords with frayed or deteriorated insulation repaired or replaced promptly?				
Are flexible cords and cables free of splices or taps?				
In wet or damp locations, are electrical tools and equipment appropriate for the use or location or otherwise protected?				
Is the location of electrical power lines and cables (overhead, underground, under floor, other side of walls, etc.) determined before digging, drilling, or similar work is begun?				
Are all unused openings (including conduit knockouts) in electrical enclosures and fittings closed with appropriate covers, plugs, or plates?				
Are electrical enclosures such as switches, receptacles, junction boxes, etc., provided with tight-fitting covers or plates?				
Are all outlets in good working condition?				
ID of Piping Systems				
Are eye-wash fountains and safety showers provided in areas where corrosive chemicals are handled?				
When the contents of pipelines are identified by name or name abbreviation, is the information readily visible on the pipe near each valve or outlet?				

NEVADA DIVISION OF STATE PARKS

Employee Driver's Test

Name: _____ Date: _____

Valid NV State Driver's License #: _____

Park: _____ Examiner: _____

Equipment #: _____ Circle one: 2wd / 4wd

Score as (✓) or (X). Any (X) score will require training of employee in that category.

Starting & Stopping

Vehicle checks (prior refer to MA-1) _____

Fasten seat belts _____
(Explain NIC coverage)

Disengage clutch and gear _____

Look behind vehicle _____

Park in proper gear* _____

Set parking brake _____

Start safely on steep hill _____

Back safely on steep hill (utilize mirrors _____
rear vision, watch speed, steering, etc.)

Use of Controls

Smooth start _____

Does not ride clutch _____

Does not grind or select wrong gear _____

Does not race or stall engine _____

Uses proper signals _____

Smooth stop _____

4wd Only

Disengage hubs on paved surface* _____

Use of transfer case* _____

Proper care in engaging _____
and disengaging hubs

Maintain control while _____
manipulating controls

* In accordance of manufacturer's recommendations

Employee Signature: _____

Examiner's Signature: _____

SFY-15
(Revised 6/05)

Nevada Division of State Parks

Monthly Safety Equipment Inspection

Park: _____ Month: _____ of 20_____ Page ____ of ____

Location	Serial Number	Description of Extinguisher	Date	Initials

Item

Eye Wash Station		
Exit Signs		
Fire Alarm		

Sfy-16
2/08

APPENDIX B -CHEMICAL AND WASTE HAZARD FORMS AND LISTS

NDSP Hazardous Chemicals List (Sfy-12)
EPA Hazardous Waste List

Hazardous Chemicals List

HOW TO IDENTIFY HAZARDOUS CHEMICALS

The responsibility for determining whether a chemical is hazardous lies with the chemical manufacturer or importer of a chemical. As a user of chemicals, you may rely on the evaluation received from these suppliers through labels on containers and safety data sheets (SDS). To prepare a list of the chemicals in your facility that are covered by the rule, walk around and write down the names of chemicals that have a label indicating a potential hazard (e.g., "flammable" or "causes skin irritation"). Don't limit yourself to chemicals in containers, however. Be aware of substances generated in work operations such as fumes or dust, as these may be covered too.

Chemicals considered to be hazardous are those:

- Regulated by OSHA in 29 CFR Part 1910, Sub-part Z, Toxic and Hazardous Substances;
- Included in the American Conference of Governmental Industrial Hygienist (ACGIH) latest edition of Threshold Limit Values for Chemical Substances and Physical Agents in the Work Environment;
- EPAs List of Lists, Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know (EPCRA), Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and Section 112(r) of the Clean Air Act.

Once you have a complete list, you will want to review it to determine if any of the items are exempted. In paragraph (b)(6) of the rule, OSHA has listed a number of items that are excluded. For example, rubbing alcohol maintained in a first-aid station would be exempt under paragraph (b)(6)(vi) because it is intended for personal use by employees. To be prudent, some employers include all chemicals even if they are exempted. In general, if there is any question regarding a particular chemical, it is best to include that chemical in the hazard communication program.

How to List Chemicals in the Work Place

All hazardous chemicals known to be present in your work place should be listed using an identity that appears on the appropriate SDS and label for the chemical. The list may also include common or trade names, Chemical Abstract Service (CAS) Registry numbers, SDS reference numbers, etc. (See attached sample form) The list can be compiled for the entire work place, or for individual work areas in various sections of the facility.

The list is to be an inventory of everything for which a material safety data sheet must be obtained. It will be part of the written Hazard Communication Program, and must be made available to employees upon request.

Nevada Division of State Parks

List of Hazardous Chemicals & Index of SDS's Form

HAZARDOUS CHEMICAL	OPERATION/AREA USED	SDS ON FILE

1910.1200---HAZARD COMMUNICATION

EPA Hazardous Waste List

Solvents:

Solvents, spent solvents, solvent mixtures, or solvent still bottoms are often hazardous. This includes solvents used in degreasing (identified as F001) and paint brush cleaning and distillation residues from reclamation. The following are some commonly used hazardous solvents (also see ignitable wastes for other hazardous solvents, and 40 CFR 261.31 for most listed hazardous waste solvents):

Benzene	F005	O-Dichlorobenzene	F002
Carbon Disulfide	F005	Ethanol	D001
Carbon Tetrachloride	F001	2-Ethoxyethanol	F005
Chlorobenzene	F002	Ethylene Dichloride	D001
Cresol	F004	Isobutanol	F005
Cresylic Acid	F004		

The Environmental Protection Agency recognizes that generators of small quantities of hazardous waste may not be familiar with the manner in which hazardous waste materials are identified. This Appendix has been assembled to aid small quantity generators in determining the EPA Hazardous Waste Numbers for their wastes. These numbers are needed to complete the "Notification of Hazardous Waste Activity," Form 8700-12.

Note that acutely hazardous wastes are identified with an asterisk (*).

Isopropanol	D001	1,1,1-Trichloromethane	F001
Kerosene	D001		F002
Methyl Ethyl Ketone	F005	1,1,2-Trichloromethane	002
Methylene Chloride	F001	Tetrachloroethylene (Perchloroethylene)	F001
	F002		F002
Naphtha	D001	Toluene	005
Nitrobenzene	F004	Trichlorethylene	001
2-Nitropropane	F005		F002
Petroleum Solvents (Flash point Less 140° F)	D001	Trichlorotrifluoroethane (Valclene)	002
		White Spirits	001
Pyridine	F005		

Acids/Bases:

Acids, bases, or mixtures having Ph less than or equal to 2 or greater than or equal to 12.5, are considered corrosive (for a complete description of corrosive waste, see 40 CFR 261.22, Characteristics of Corrosivity). All corrosive materials and solution have the EPA Hazardous Waste Number D002. The following are some more commonly used corrosive:

Acetic Acid	Oleum
Ammonium Hydroxide	Perchloric Acid
Chromic Acid	Phosphoric Acid
Hydrobromic Acid	Potassium Hydroxide
Hydrochloric Acid	Sodium Hydroxide
Hydrofluoric Acid	Sulfuric Acid
Nitric Acid	

Dry Cleaning Filtration Residues:

Cooked powder residue (perchloroethylene plants only), still residues, and spent cartridge filters containing perchloroethylene or valclene are hazardous and have the EPA Hazardous Waste Number F002.

Still residues containing petroleum solvents with a flash point less than 140 degree F are considered hazardous and have the EPA Hazardous Waste Number D001.

Heavy Metals/Inorganic:

Heavy metals and other inorganic waste materials exhibit the characteristic of EP Toxicity and are considered hazardous if the extract from a representative sample of the waste has any of the specific constituent concentrations shown in 40 CFR 261.24, Table 1. This may include dusts, solutions, waste water treatment sludges, paint wastes, waste inks, and other materials that contain heavy metals/inorganic (note that waste water treatment sludges from electroplating operations are identified as F006). The following are EP Toxic:

Arsenic	D004	Lead	D008
Barium	D005	Mercury	D009
Cadmium	D006	Selenium	D010
Chromium	D007	Silver	D011

Ignitable Wastes:

Ignitable wastes include any liquids that have a flash point less than 140 degrees F, any non-liquids that are can causing a fire through friction, absorption of moisture, or spontaneous chemical change, or any ignitable compressed gas as described in 49 CFR 173.300 (for a complete description of ignitable wastes, see 40 CFR 261.21, Characteristic of ignitibility). Examples are spent solvents (see also solvents), solvents still bottoms, ignitable paint wastes (paint removers, brush cleaners and stripping agents), epoxy resins and adhesives (epoxies, rubber cements and marine glues), and waste inks containing flammable solvents. Unless otherwise specified, all ignitable wastes have the EPA Hazardous Waste Number of D001.

Some commonly used ignitable compounds are:

Acetone	F003	Ethyl Ether	F003
Benzene	005	Ethylene Dichloride	D001
n-Butyl Alcohol	F003	Methanol	F003
Chlorobenzene	F002	Methyl Isobutyl Ketone	F003
Cyclobexanone	F003	Petroleum Distillates	D001
Ethyl Acetate	F003	Xylene	F003
Ethylbenzene	F003		

Ink Sludge Containing Chromium and Lead:

This includes solvent washes and sledges, caustic washes and sledges, or water washes and sledges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead. All ink sledges have the EPA Hazardous Waste Number K086.

Lead-Acid Batteries:

Used lead-acid batteries should be reported on the notification form only if they are not recycled. Used lead-acid batteries that are recycled do no need to be counted in determining the quantity of waste that you generate per month, nor do they require a hazardous waste manifest when shipped off your premises. (Note: Special requirements do apply if you recycle your batteries on your premises-see 40 CFR Part 266.)

Lead Dross D008
Spend Acids D002
Lead-Acid Batteries D008

Pesticides:

The pesticides listed below are hazardous. Waste marked with an asterisk (*) have been designated acutely hazardous. For a more complete listing, see 40 CFR 261.32 and 261.33 for specific listed pesticides, and other wastes, waste waters, sledges, and by-products from pesticide formulators. (Note that while many of these pesticides are no longer in common use, they are included here for those cases where they may be found in storage.)

*Aldicarb P070
*Aldrin P004
Amitrole U011
*Arsenic Pentoxide P011
*Arsenic Trioxide P012
Cacodylic Acid U136
Carbamic Acid, Methylnitroso
-Ethyl Ether U178
Chlordane U036
*Copper Cyanides P029
1,2-Dibromo-3-chloropropane U066
1,2-Dichloropropane U083
1,3-Dichloropropene U084
1,2-Dichlorophenoxy Acetic Acid U240
DDT U061
*Dieldrin P037
Dimethylcarbamoyl Chloride U097
*Dinitrocresol P047
*Dinoseby P020
Disodium Monomethanearsenate D004
*Disulfoton P039
*Endosulfan P050
*Endrin P051Ethylmercuric ChlorideD009
*Famphur P097
*Heptachlor P059
Hexachlorobenzene U127
Kepone U142
Lindane U129
2-Methoxy Mercuric Chloride D009
Methoxychlor D014
*Methyl Parathion P071
Monosodium Methanearsenate D004
*Nicotine P075
*Parathion P089
Pentachloronitrobenzene U185
Pentachlorophenol U242
*Phorate P094
*Strychnine P108
2,4,5-Trichlorophenoxy Acetic Acid U232
2,4,5-Trichlorophenoxy Propionic Acid ... U233
*Thallium Sulfate P115
Thiram U244
*Toxaphene P123
Warfarin U248

Reactives:

Reactive wastes include reactive materials or mixtures that are unstable, react violently with or form explosive mixtures with water, generate toxic gases or vapors when mixed with water (or when exposed to Ph conditions between 2 and 12.5 for cyanide or sulfide bearing wastes), or area can detonation or explosive reaction when heated or subjected to shock (for a complete description of reactive wastes, see 40 CFR 261.23, Characteristic of reactivity). Unless otherwise specified, all reactive wastes have the EPA Hazardous Waste Number D003. The following materials are commonly considered to be reactive:

Organic Peroxides
Perchlorates
Permanganates
Sulfides

Acetyl Chloride
Chromic Acid
Cyanides
Hypochlorites

Spent Planting and Cyanide Wastes:

Spent plating wastes contain cleaning solutions and plating solutions with caustics, solvents, heavy metals, and cyanides. Cyanides wastes may also be generated from heat treatment operations, pigment production, and manufacturing of anti-caking agents. Plating wastes are generally Hazardous Waste Numbers F006-F009, with F007-F009 containing cyanide. Cyanide heat treating wastes are generally Hazardous Waste Numbers F010-F012. See 40 CFR 261.32 for a more complete description of plating wastes.

Wood Preserving Agents:

The waste water treatment sledges from waste water treatment operations are considered hazardous (EPA Hazardous Waste Number K001--bottom sediment sledges from the treatment of waste water processes that use creosote and pentachlorophenol). In addition, unless otherwise indicated, specific wood preserving compounds are:

Chromated Cooper Arsenate D004
Creosote..... U051
Pentachlorophenol F027

APPENDIX C - CONFINED SPACE FORMS AND RESOURCES

NDSP Confined Space Entry Log (Sfy-13)
NDSP Confined Space Entry Permit (Sfy-14)
NDSP Employee Driver's Test (Sfy-15)
NDSP Monthly Safety Equipment Inspection (Sfy-16)
Relationship of Oxygen Concentrations, Duration of Exposure and Effect
Common Gaseous Contaminations in Underground Construction
Decision Flow Chart
Alignment Charts

Confined Space Entry Log

PARK:

Date	Location	Entry Person(s)	Standby Person(s)	Entry Time	Exit Time	Work Description

Nevada Division of State Parks

Confined Space Entry Permit

PARK: _____ ENTRY DATE/TIME: _____

Location of Space or Vessel: _____

Purpose for Entering Space or Vessel: _____

Entry Supervisor: _____

Authorized Entrants: _____

Standby Person(s): _____

HAZARDS: (Detailed in Space's Written Program)

__ Oxygen Deficiency (less than 19.5%)
__ Flammable/Explosive gases or vapors (greater than 01% of LFL/LE)
__ Airborne Combustible Dust (meets or exceeds LFL/LEL)
__ Mechanical or Electrical Hazards
__ Other: _____

PROCEDURES COMPLETED:

__ Procedures Review
__ Atmospheric Testing/Monitoring
__ Emergency Retrieval Equip.
__ Isolation/Lockout/Tagout*
__ Ventilation*
__ Standby Person(s)
__ Personal Protective Equip.*
__ Air-Purifying Respirator*
__ Air-Supplying Respirator*
__ Special Tools/Equip.*
__ Fire Extinguisher
__ Other Precautions*

*List Procedures as necessary

ISOLATION/LOCKOUT/TAGOUT PROCEDURES:

PERSONAL PROTECTIVE/SPECIAL EQUIPMENT: _____

TEST/MONITORING: Test to be Taken/Results (record by time, if appropriate by area/level in space)
TEST\TIME: _____
OXYGEN %O_2: _____
FLAMMABLE: _____
TOXIC: _____
OTHER: _____
Performed by: _____

COMMUNICATION PROCEDURES: _____

EMERGENCY PROCEDURES: _____

PERMIT AUTHORIZATION: Facility Supervisor: _____
Park Supervisor: _____
Entry Supervisor: _____

I certify that all required precautions have been completed in accordance with all confined space requirements of OSHA, State of Nevada, the Division of State Parks, and the confined space program.

Entry Supervisor: _____ Date: _____

Sfy-14
August 2001

Oxygen-Deficient Atmospheres

O_2 Content	Effects and Symptoms (at p_{atm})
15-19%	Decreased ability to work strenuously. May impair coordination and induce early symptoms in persons with coronory, pulmonary, or circulatory problems.
12-14%	Respiration increases in exertion, pulse up, impaired coordination, perception, and judgment.
10-12%	Respiration further increases in rate and depth, poor judgment, lips blue.
8-10%	Mental failure, fainting, unconsciousness, ashen face, blueness of lips, nausea, and vomiting.
6-8%	8 min., 100% fatal; 6 min., 50% fatal; 4-5 min., recovery with treatment.
4-6%	Coma in 40 sec., convulsions, respiration ceases, death.

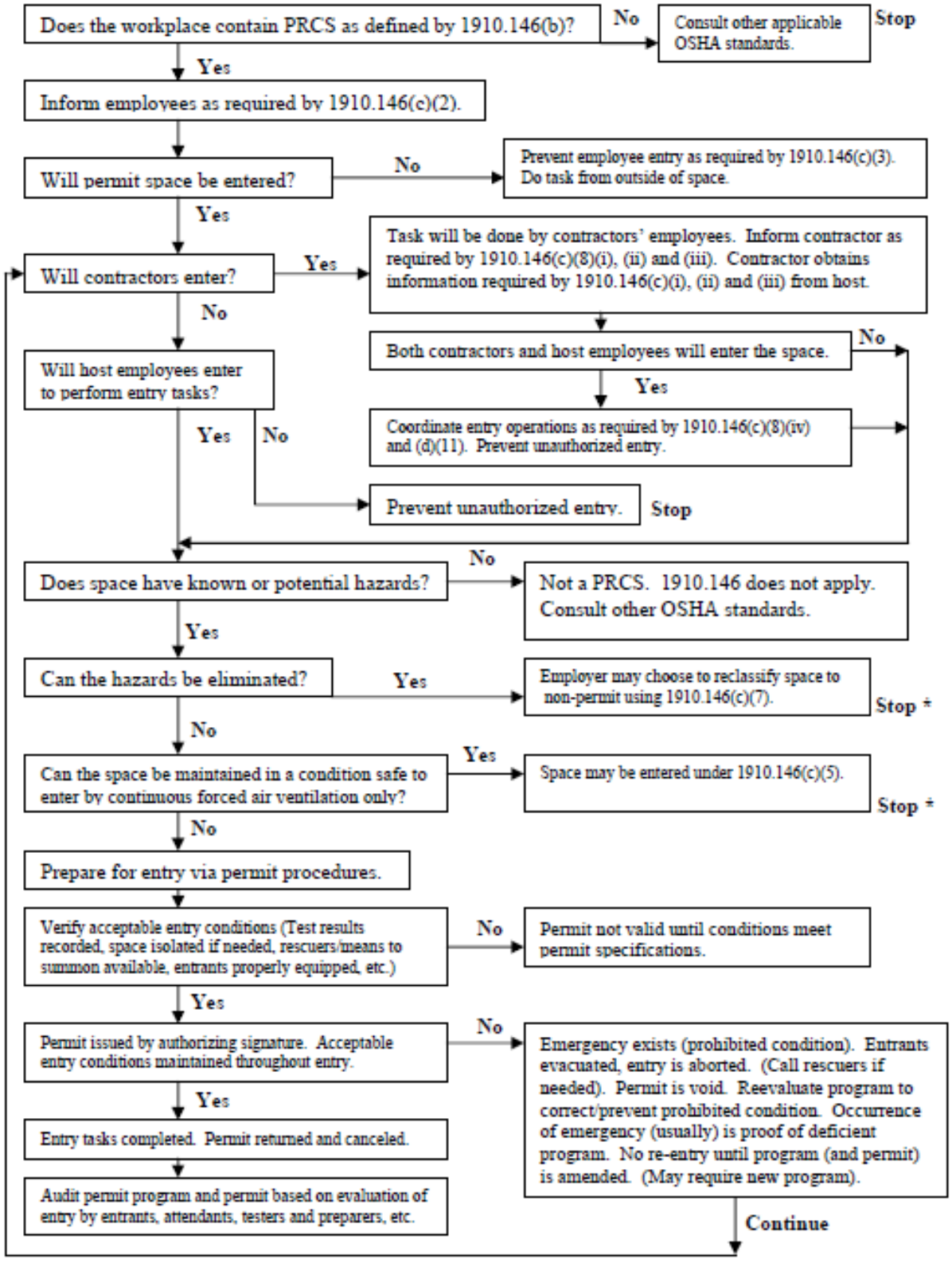
NOTE: Exposure to atmospheres containing 12% or less oxygen will bring about unconsciousness without warning and so quickly that individuals cannot help or protect themselves.

Common Gaseous Contaminants in Underground Construction

	Possible Sources	Threshold Limits Value	Effect Upon Body	Flammable Limits in Air-% by Volume		Specific Gravity (Air = 1)
				Lower	Upper	
Carbon dioxide	Product of combustion, oxidation, and respiration. May be found vicinity of landfills, sewage lines, sewage treatment plants.	Asphyxiant	Nontoxic. May displace oxygen. Concentrations of more than 5% may cause abnormal respiration	non-combustible		1.53
Carbon monoxide	Product of combustion. May be found vicinity of internal combustion engines, blasting, or fires.	50 PPM	Combines with hemoglobin in the blood and prevents blood from carrying oxygen to tissues.	12.5	74.0	0.96
Hydrogen sulfide	Product of decomposition of organic sulfur-bearing material. May be found in vicinity of swampy areas, landfills, sewage lines, sewage treatment plants, refineries and petroleum product lines.	10 PPM	Paralyzes muscles controlling breathing.	4.0	44.0	1.189
Methane	Occurs in natural gas and as a result of decaying organic material. May be found vicinity of swampy areas, landfills, sewage lines and sewage treatment plants.	Simple Asphyxiant	Nontoxic. May displace oxygen.	5.0	15.0	0.415
Nitrogen dioxide	Product of diesel engines, blasting and high temperature welding.	5 PPM (ceiling value)	Dissolves moisture in lungs, forming nitrous and nitric acids. Only slightly irritating to upper respiratory system. Dangerous concentrations may be encountered without discomfort. Irritation may disappear upon reaching fresh air, but 6-24 hours later throat, bronchi, and lungs suffer congestion and edema.	non-combustible		1.491

Decision Flow Chart

Permit – Required Confined Space Decision Flow Chart



*Spaces may have to be evacuated and re-evaluated if hazards arise during entry.

APPENDIX D -LOCKOUT/TAGOUT FORMS AND RESOURCES

THIS SECTION CONTAINS FORMS
FOR THE CONTROL OF HAZARDOUS ENERGY
SOURCE AND ELECTRICAL HAZARDS PLAN

List of Authorized Lockout and Tagout Individuals
List of Affected Employees by Job Titles
Other Employees Exposed to Tagout Conditions
Annual Evaluation Report
Energy Source Determination Checklist
Index of All Lockout Procedures
Specific Lockout Procedures
Index of All Tagout Procedures
Specific Tagout Procedures

THESE FORMS ARE TO BE COMPLETED AND COMPILED INTO THE SAFETY PLAN FOR EACH PARK UNIT.

List of Authorized Lockout and Tagout Individuals

PARK: _____

POSITION	NAME	LOCK #	MECHANI-CAL YES/NO	ELECTRICAL YES/NO

NOTE: AUTHORIZED ELECTRICAL LOCKOUT/TAGOUT REQUIRES QUALIFIED WORKER IN ACCORDANCE WITH SUB-PART "S" 29 CFR PART 1910.

List of Affected Employees by Job Titles

JOB TITLE	MACHINERY, EQUIPMENT OR PROCESS

LIST OF OTHER EMPLOYEES EXPOSED TO TAGOUT CONDITIONS -
APPLIED ONLY WHERE LOCKOUT CAN NOT BE ACHIEVED.

JOB TITLE	MACHINERY, EQUIPMENT OR PROCESS

Annual Evaluation Report

Date of Evaluation:_____Evaluation made by:_____

General policy has been reviewed: YES / NO

COMMENTS ON THE GENERAL POLICY:_____

THE FOLLOWING SPECIFIC PROCEDURES HAVE BEEN REVIEWED._____

THE FOLLOWING SPECIFIC PROCEDURES HAVE BEEN MODIFIED. _____

THE FOLLOWING SPECIFIC PROCEDURES WERE ADDED.

A review of the OSHA 300 FORM, LOG OF OCCUPATIONAL INJURIES AND ILLNESSES, and the ASSOCIATED ACCIDENT/INJURY/ILLNESS REPORTS

Workers Compensation Reports and associated Investigation reports YES / NO.

THE FOLLOWING INJURIES WERE LOCKOUT / TAGOUT RELATED.

_____

LOCK OUT/TAGOUT PROCEDURE/CHECKLIST
Procedures Requiring Modification

IF INJURIES ARE CITED, INDICATE THE PROCEDURE, NUMBER FOR THE MACHINERY, EQUIPMENT OR PROCEDURE INVOLVED**:**_____

NOTE: THESE PROCEDURES WILL BE REVIEWED AND MODIFIED AS NECESSARY TO PREVENT SIMILAR ACCIDENTS.

COMMENTS/NOTES**:**_____

LOCKOUT/TAGOUT PROCEDURE/CHECKLIST ENERGY SOURCE DETERMINATION WAS REVIEWED,

MODIFIED AND IMPLEMENTED ON (DATE)

Signature**:**_____Date:_____

Energy Source Determination Checklist

DATE:_____CONDUCTED BY:_____

In order to determine all energy sources for each piece of equipment, all questions must be answered. If the question does not apply, write N/A in the Blank. Circle "yes" or "no" or fill in the blank **(Do not leave any spaces blank)**.

Park:_____Location:_____Equipment Name:_____
Model #:____Serial #:_____ State ID #:____ Lockout/Tagout Procedure # Assigned:_____

1. Does this equipment have:
   a. Electric power (include batteries)? Yes / No.
      If yes, Motor Control Center or Power Panel Number and Breaker Switch Number:__
      Does it have a lockout device? Yes / No.

      Battery location:_____

      Battery disconnect location:_____

   b. Mechanical power? Yes / No.

      Mark each type of energy source that applies:

      1. Engine driven? Yes / No.

         If yes, switch or key location:_____
         Is lockout device installed? Yes / No.
         If no, describe the method of preventing operation:_____

      2. Spring loaded? Yes / No.

         If yes, is there a method of perverting spring activation? Yes / No.
         If no, describe how spring tension can be safely released or secured:_____

      3. Counter weight(s)? Yes / No.

         If yes, can it be locked? Yes / No.
         If no, describe how it can be secured:_____

      4. Flywheel? Yes / No.

         If yes, does it have a method of preventing movement? Yes / No.
         If no, describe how it can be secured:_____

   c. Hydraulic power? Yes/ No.

      If yes, Location of the main control/shutoff valve:_____
      If no, location of the closest manual shutoff valve:_____

      Can control/shutoff valve be locked in the off position? Yes / No.
      If no, describe how valve is secured in the closed position:_____
      Is there a bleed or drain valve to reduce pressure to zero? Yes / No.
      If no, describe how pressure will be bled off:_____

d. Pneumatic energy? Yes / No.

If yes, location of the main control/shutoff valve:_____
If no, location of the closest manual shutoff valve:_____
Can the control / shutoff valve be locked in the off position? Yes / No.
If no, describe how valve is secured in the closed position:_____
Is there a bleed or drain valve to reduce pressure to zero? Yes / No.
If no, describe how pressure will be bled off:_____

e. Chemical system? Yes / no.

If yes, location of the main control / shutoff valve:_____
If no, location of the closest manual shutoff valve:_____
Can the control / shutoff valve be locked in the off position? Yes / No.
If no, describe how valve is secured in the closed position:_____

Is there a bleed or drain valve to reduce pressure to zero and drain systems of chemicals? Yes / No.

If no, describe how pressure will be bled off and how the system will be drained and neutralized.

What personal protective clothing and equipment is needed for operation and or servicing of this equipment:_____

f. Thermal energy? Yes / No.

If yes, location of the main control/shutoff valve:_____
If no, location of the closest manual shutoff valve:_____
Can the control/shutoff valve be locked in the off position? Yes / No.
If no, describe how valve is secured in the closed position:_____
Is there a bleed or drain valve to reduce pressure and temperature and drain the system? Yes/No.
If no, describe how pressure and temperature will be reduced and the system drained:_____
_____
What personal protective clothing and equipment is needed for operation and or servicing of this equipment:_____

Special precautions or procedures not noted above (i.e., fire hazards, chemical reactions, required cool down periods, etc.)

Recommendations or comments:

_____

_____

Completed by:_____Date:_____

Supervisory Review:_____Date:_____

Regional Approval:_____Date:_____

Index of All Lockout Procedures

PROCEDURE #	EQUIPMENT, MACHINERY OR PROCESS

Specific Lockout Procedures

NOTE: According to OSHA 29 CFR 1910.147 (c) (4) (i), an employer need not document the required procedure for a particular process, equipment, or machinery that meet the indicated criteria. See page 89 of the NSP Safety Manual for the exceptions to this rule.

EQUIPMENT, MACHINERY OR PROCESS:_____
APPROVED BY:_____
DATE:_____

1. The purpose of this specific procedure is to protect the life and limb of the employees of the Nevada Division of State Parks.

   NOTE: Failure to comply with these procedures will result in disciplinary action and may result in employee discharge.

2. TYPE(S) AND MAGNITUDE(S) OF ENERGY AND HAZARDS:

3. NAME(S) / TITLE(S) OF EMPLOYEES AUTHORIZED TO LOCKOUT/TAGOUT:

4. NAMES(S) / TITLES(S) OF AFFECTED EMPLOYEES AND HOW TO NOTIFY:

5. TYPE(S) AND LOCATION OF ENERGY ISOLATING MEANS:

6. TYPE(S) OF STORED ENERGY AND METHODS TO DISSIPATE OR RESTRAIN:

Index of All Tagout Procedures

PROCEDURE #	EQUIPMENT, MACHINERY OR PROCESS

Specific Tagout Procedures

NOTE: According to OSHA 29 CFR 1910.147 (c) (4) (i), an employer need not document the required procedure for a particular process, equipment, or machinery that meet the indicated criteria. See page 89 of the NSP Safety Manual for the exceptions to this rule.

EQUIPMENT, MACHINERY OR PROCESS:_____
APPROVED BY:_____
DATE:_____

The purpose of this specific procedure is to protect the life and well-being of the employees of the Nevada Division of State Parks.

NOTE: Failure to comply with these procedures will result in disciplinary action, up to and including, employee discharge.

1. TYPE(S) AND MAGNITUDE(S) OF ENERGY AND HAZARDS**:**_____

_____

_____

VII. NAME(S) AND TITLE(S) OF EMPLOYEES AUTHORIZED TO LOCKOUT/TAGOUT**:**_____

_____

_____

VIII. NAME(S) AND TITLE(S) OF AFFECTED EMPLOYEES AND HOW TO NOTIFY**:**_____

_____

_____

IX. TYPE(S) AND LOCATION(S) OF ENERGY ISOLATING MEANS:_____

_____

_____

X. TYPE(S) OF STORED ENERGY AND METHODS TO DISSIPATE OR RESTRAIN:_____

_____

_____

_____

_____